

# BUSINESS HORIZONS

SPRING 1961

VOL. 4

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*Arch Patton*

**SIX VISITING MARXISTS MEET U.S. BUSINESS**

*Stefan H. Robock*

**INCREASE YOUR MANAGEMENT COACHING POWER**

*Lincoln Atkiss and William M. Read*

**LETTER TO MY SON**

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**MOTIVATING THE ORGANIZATION MAN**

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**THE MILITARY MARKET IN THE 1960's**

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**FREE TRADE AND THE PAYMENTS PROBLEM**

*Franz Gehrels*

**FORMULA FOR A 70-MINUTE HOUR**

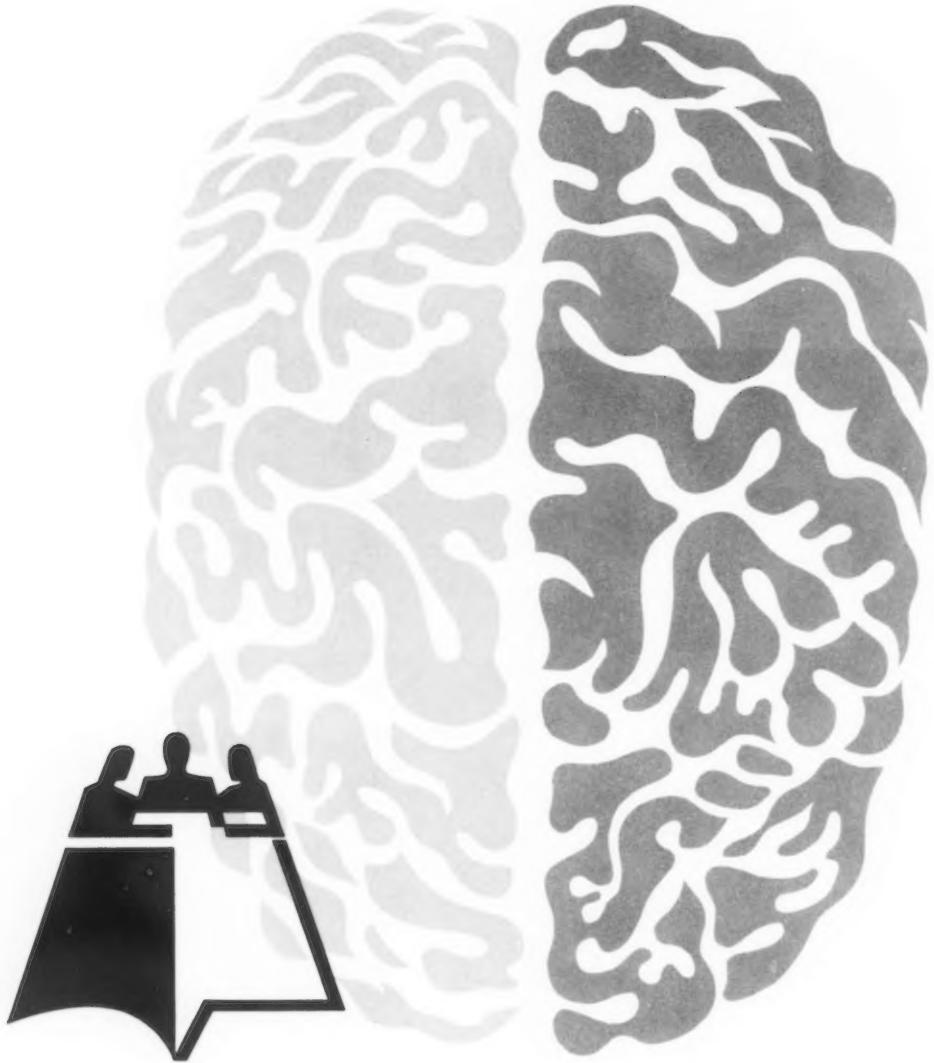
*Paul J. Gordon*

**MINIMIZING THE RISKS OF MOVING ABROAD**

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ARCH PATTON

Mr. Patton is a director of McKinsey & Company, Inc., management consultants. He is well known for his pioneering work in developing executive compensation administration, and was in charge of one of the first organized efforts to survey executive compensation for the American Management Association.

*Pricing the Compensation Structure*

Properly constructed, the executive compensation plan does more than reward management. Compensation is a way of pricing talent; it can be a tool for attracting executives, motivating management to prepare for greater responsibility, and ensuring that top jobs are filled by top people. Full value for every salary dollar can be had only through a well-administered pay plan. 19

STEFAN H. ROBOCK

As an economist in charge of the Russian visitors' tour, Mr. Robock writes from a close-up view.

His professional experience includes work with the CED, United Nations, and TVA.

He is currently director of International Business Studies at Indiana University.

*Six Visiting Marxists Meet U. S. Business*

When a group of top-level Soviet economists—each a high priest of Marxian economics—get a personal view of the U.S. economy, the results are bound to be interesting. In this case, both the guests and their American hosts gained some unexpected impressions. The Soviets left, as they came, Marxist to the core; but some comfortable stereotypes, both Soviet and U.S., were gone forever. 29

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AUTHOR

ARTICLE

LINCOLN ATKISS AND WILLIAM M. READ

Mr. Atkiss is Director of the Marketing Personnel Division, Atlantic Refining Company; Mr. Read is Director of the Personnel Training and Development Division of the same company. Both have done previous writing on executive personnel development.

*Increase Your Management Coaching Power*

The management coaching concept is not new, but it implies a special relationship among people. This gives it great power to improve present performance and to prepare the way for future advancement. Once understood and put into practice, management coaching is the best answer to most of the needs in improving management performance. 39

JEAN HUBERT

Mr. Hubert is chairman of two French industrial organizations. His career in management spans forty years; during this time, he has received many awards and honors, including the French Legion of Honor.

*Letter to My Son*

In a letter from father to son, a French executive reveals a side of the management personality too often hidden by business. He reminds us that in our age of massive organization and advanced technology, business management must be more than an administrative science; it is also a human art concerned with the style and quality of life. 45

FREMONT E. KAST

Organizations and the people who work in them are of special interest to Mr. Kast, who is an Associate Professor in the College of Business Administration, University of

Washington. He is also a consultant to industry, and has written on management, planning, and organizational relationships.

*Motivating the Organization Man*

Contrary to some popular impressions, management personnel are not always the highly-motivated, company-oriented workers written about in novels. Often, the problem is to motivate an interest in company goals and to resolve conflicts between organizational requirements and individual needs. 55

MURRAY L. WEIDENBAUM

Government expenditures and the markets they create are Mr. Weidenbaum's professional province. He is an economist with the Boeing Airplane Company, and also teaches graduate classes in government expenditures at the University of Washington.

*The Military Market in the 1960's*

The military market has been a major growth area of our economy. It accounted for \$41 billion in sales in 1960, and indications are that its importance will continue—with a new dimension added by space projects. Analysis of this market will be rewarding even though some unconventional procedures are required.

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FRANZ GEHRELS

Mr. Gehrels is an Associate Professor of Economics at Indiana University. A former economist with the Mutual Security Agency, he has a special interest in international economics and has written many articles on foreign and balance-of-payments problems.

*Free Trade and the Payments Problem*

Foreign trade policy is again an economic issue of intense interest and hot dispute. The public interest often suffers because of failure to grasp the basic question. This article describes a rational trade policy and discusses our past and current policies. The balance-of-payments problem should be considered in its effects on trade policy. 69

PAUL J. GORDON

Mr. Gordon is Associate Professor of Management in the School of Business, Indiana University. Among his special fields are general administration, organizational behavior, and the process of administration. Many ideas for this article stem from consulting activities with executives who considered managing personal time a common but neglected problem.

*Formula for a 70-Minute Hour*

Professional managers, for all their skills in administration, are often poor controllers of their most valuable asset—their own time. With the usual executive work load already pushing the upper limits of hours available, little can be done about finding more hours. The only solution is to find a way of getting more out of each hour. 79

JOHN G. McDONALD

An associate of McKinsey & Company, Inc., Mr. McDonald has a special interest in organization for international operations. His experience includes work with foreign subsidiaries of two American companies.

*Minimizing the Risks of Moving Abroad*

The number of American companies establishing operations abroad is increasing rapidly; at the same time, the perils of a badly planned move are greater. Here, based on the experiences of companies that have taken the step, is a report on the risks and opportunities of moving overseas and of how better organization can minimize these risks. 87

ROCCO CARZO, JR.

Mr. Carzo teaches management at the Pennsylvania State University and is associated with the Social Science Research Center there. He has written extensively on organizational theory.

*Organizational Realities*

New concepts and analytical tools from sciences formerly remote from business are reshaping our knowledge of organizations. Weighed and found wanting are some of the most entrenched ideas of traditional organizational theory. If the structures of the future are still not definite, one thing is clear: The old forms are as passe as the traditional thinking that fostered them. 95

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# business in a lighter vein

## LAW ON THE LINKS

*by Charles M. Hewitt*

As FRED, the greenkeeper, was watering the number one green, he saw two balls drop near the front edge. He turned and saw two golfers approaching up the center of the fairway. Dragging his watering hose out of the line of the two balls, he moved to the apron on the left side of the green. A moment later, W.W.'s ball struck Fred on the cheek. Fred received a painful injury, and brought a lawsuit against W.W.<sup>1</sup>

Every divot digger from duffer to pro should have some awareness of the basic legal principles that relate to situations of this type. Let us follow Fred's case and see how the Delaware Supreme Court handled the main issues and arguments. W.W., the third member of the threesome, had made his approach shot from the extreme left of the fairway about 80 yards away from the green. He testified that he yelled, "Watch it, Fred," both shortly before and after he struck his ball. His two golfing buddies testified that they heard him yell the moment he struck the ball or immediately after. Fred testified that he neither saw nor heard W.W. before the ball hit him.

*Mr. Hewitt is Professor of Business Law, Business Law Department, School of Business, Indiana University.*

W.W.'s attorney argued vigorously that there was no proof of negligence on his client's part. The court pointed out that the law requires that a golfer give "timely and adequate" warning to any person in the "general" direction of his shot. This warning is especially necessary, said the court, where the golfer shooting is aware of the presence of the other person but the other person may not be aware of him.

The court ruled that it was for the trial court jury to weigh the opposing statements and decide whether or not W.W. had given timely and adequate warning. Unfortunately for W.W., the jury found that he had failed to give adequate warning and was therefore guilty of negligence.

But, argued the defense counsel, granting W.W.'s initial negligence, did not Fred assume the risk of injuries of this type when he voluntarily took the job as greenkeeper? Furthermore, was not Fred guilty of negligence that contributed to his own injury when he moved over to the left fringe of the green?

The court's ruling on this argument was that golfers and

<sup>1</sup> *Robinson v. Meding*, 163 A 2d 272 (1960).

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others who may be on golf courses do assume the normal risks incidental to such activity, but that normal risks do not include risks that cannot be reasonably anticipated and that may be the result of negligent acts on the part of others. In plain language, the court was saying that if your playing partner should slice his shot, hit a tree, and then hit you, he would probably not be liable because you had assumed such risks of accidental injury when you volunteered to play the game. On the other hand, the law does not require that you assume the risk of another golfer's failure to give adequate warning.

The court conceded that Fred (or any golfer) was required to make reasonable use of his faculties to discover any dangers to which he might be exposed while on the course, but that failure to look for dangers, when he had no reason to apprehend any, did not amount to contributory negligence. In other words, failure to anticipate the negligence of another is not negligence in itself and does not bar the right to recover for injuries. Fred collected a very substantial sum of money.

Because of friendships and business ties, and the minor nature of most injuries, it seems safe to assume that relatively

few golfing accidents ever reach the courts. Nevertheless, Fred's case is only one of a surprisingly large number of golf injury cases that have been adjudicated. Possible liability begins even before the game. In one case a golfer, waiting on the tee, struck his golfing buddy with a practice swing.<sup>2</sup> He had to pay for injury caused.

You may be held liable if your drive injures a member of a foursome on another tee close by (40 to 80 yards) even though you have warned them and one of them has directed you to make your shot.<sup>3</sup> Furthermore, a "wild and erratic" player may be liable if he strikes someone standing as much as 32 degrees off the anticipated line of the ball.<sup>4</sup> Similarly, it has been held that hitting a second ball without fresh warning was negligence when the first ball apparently fell in bounds.<sup>5</sup>

On the other hand, the courts recognize that, "No player has ever achieved such perfection in the game that he does not occasionally hook or slice the ball." They agree that to hold the golfer liable for all injuries caused by bad shots would be to impose upon him a greater duty of care than ". . . the Creator endowed him with faculties to carry out."<sup>6</sup>

For example, one court ruled that a golfer would not be liable for hitting a golfing companion if the golfer shanked a shot out of the rough at a 90 degree angle



to the anticipated line of flight.<sup>7</sup> In another case, it was ruled that using a driver out of the rough and playing a sevensome were not in themselves acts of negligence that would render a golfer absolutely liable for injury inflicted on others.<sup>8</sup> In one very close decision, a golfer waved another group to shoot through while he moved to a position on the left side of the fairway where some foliage obstructed his view. The court ruled that he was guilty of contributory negligence for obstructing his own view and could not collect damages even though the golfer striking him failed to give any warning of his shot.<sup>9</sup>

The legal duty of care extends not only to fellow golfers but also to caddies and spectators. One caddy collected \$10,000

<sup>2</sup> *Brady v. Kane*, 111 So. 2d 472 (1959).

<sup>3</sup> *Ratcliffe v. Whitehead*, 3 West Week Rep. 447 (1933, Manitoba).

<sup>4</sup> *Alexander v. Wrenn*, 158 Va. 486, 164 S.E. 715 (1932).

<sup>5</sup> *Getz v. Freed*, 377 Pa. 480, 105 A. 2d 102 (1954).

<sup>6</sup> *Page v. Unterriener*, 130 S.W. 2d 970 (1939).

<sup>7</sup> *Walsh v. Machlin*, 128 Conn. 412, 23 A.A. 2d 156 (1941).

<sup>8</sup> *Povanda v. Powers*, 272 N.Y.S. 619 (1934).

<sup>9</sup> *Boynton v. Ryan*, 257 F. 2d 70 (1958).



when a golfer hit him with an approach shot after a failure to give "timely and adequate warning."<sup>10</sup> Another golfer paid heavily when she struck a spectator while performing a demonstration swing for a golfing companion.<sup>11</sup>

The cases discussed in this article indicate that, to be on the safe side, the following general principles should be observed:

1 Recognize that a golf ball in flight may inflict substantial, even fatal, injuries.

2 Recognize that you have a legal duty to exercise reasonable care towards all people who may be in the possible orbit of your shot or your swing. Bad manners on their part do not justify making any exception to this rule.

3 Recognize that the law requires that you exercise reasonable care to protect yourself from the ordinary dangers of the game.

4 Give warning before you hit the ball in the general direction of anyone—even where he has given his consent to your shot.

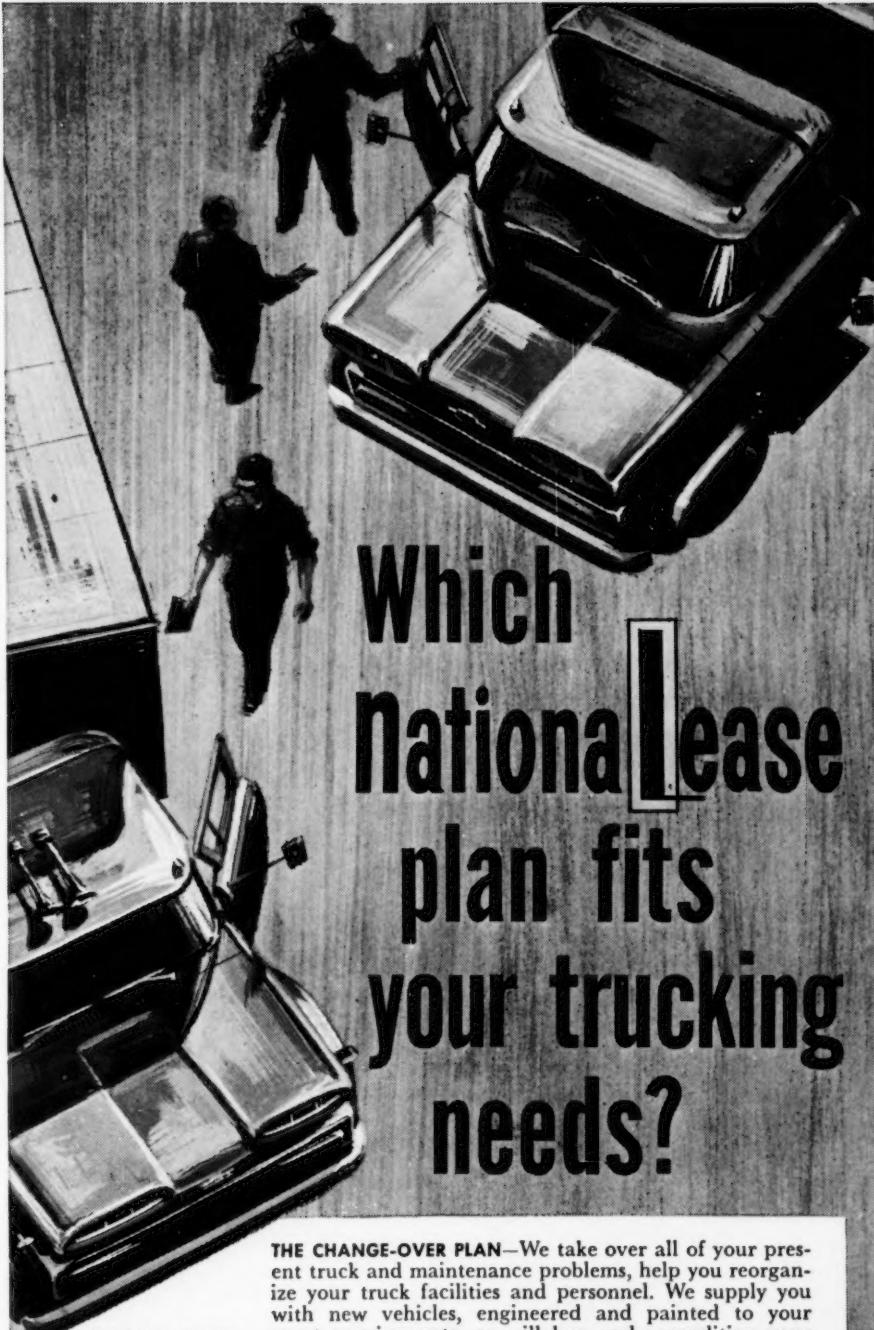
5 Unless you are a very skillful golfer, never hit in the general direction of people at close range regardless of the circumstances.

6 Be especially careful for the safety of caddies and course employees who frequently must station themselves in hazardous positions.

In summary, do not keep your eye on the ball—keep it on the people you might possibly hit! Remember all of this, and both your score and your bank account will stay fat.

<sup>10</sup> *Povanda v. Powers.*

<sup>11</sup> For a discussion of this and other cases see 138 A.L.R. 541.



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BUSINESS GAMES

To THE EDITORS:

Business games are being used to an increasing extent in the United States, and their use has spread to Australia. *Business Horizons* readers may be interested in how games have been used for the past two years in the final year of the four-year evening diploma course in management at the Perth Technical College. The students in this course are junior- or middle-rank executives whose average age is 32 years. Some of the behavior patterns which emerged from these "laboratory" sessions tend to confirm some of the hypotheses of modern organization theory.

Two groups of nine students were used, and the simulated decision-making situation was adapted from the Harvard business game. Each group elected its own chairman and operated under a self-imposed democratic system; issues on which unanimity could not be obtained were decided by a majority vote. In the game, each team could spend money on more salesmen, advertising, market research, and product development. How much the opposing team knew concerning extra sales, if any, accruing from expenditures in each of the above categories depended on a set of decision rules known only to the umpire and on competitive action.

Each team member had difficulty in selecting an alternative which he could recommend unreservedly. The perceived conflict within the individual increased as the uncertainty of the alternatives increased and vice versa. This tended to confirm the hypothesis that conflict is a function of the uncertainty of the alternatives available. This conflict, which represented a disequilibrium in the system, generated motivation to reduce the conflict which led, in turn, to a search for clarification. This search was quite vigorous because of the time pressure imposed by the rules of the game.

Proposals were usually made that market research be undertaken by purchasing information on market potential from the umpire or by building up sales records which would indicate the maximum possible performance in a market area. The latter method did not involve the direct use of resources, but was less certain and more time-consuming than the former. Even when the

market potential was known, the competitor's strategy was not. This led individuals in each group to put forward for discussion alternatives for action which rested on certain assumptions. These alternatives usually took this form: "They (the opposing team) will probably put most of their salesmen in Region I; therefore, we ought to concentrate on Region II."

As each individual pursued his arguments, based on actual knowledge of market potential plus the assumed reactions of the opposing group, the assumptions took on the character of facts. This phenomenon, termed uncertainty absorption, was characteristic of much of the individual behavior in both groups. There are other types of uncertainty absorption in large organizations, but the type cited here is quite common in real organizations of all sizes. An action alternative is put forward and the possible outcomes are assessed on the basis of assumptions which are later forgotten but remain embedded in the argument.

The theory of rational choice put forward by March and Simon [J. G. March and H. A. Simon, *Organizations* (New York: Wiley, 1958)] incorporates two fundamental characteristics:

1. Choice is always exercised with respect to a simplified model of the situation.
2. The definition of the situation is not given, but is the outcome of psychological and sociological processes.

In the decision situation involving these two groups there were four main avenues of expenditure which could lead to increased sales: more salesmen, advertising, research and development, and market research.

The only restraint imposed was that of resource availability—the sum of the expenditures on these items could not exceed the group's total cash plus borrowing potential after the deduction of current liabilities. Obviously, the possible courses of action, including the precise placing of the salesmen, were almost infinite. It was impossible, however, to consider more than two or three action alternatives within the allotted time. The typical reaction of each group was to consider certain combinations of expenditures and salesmen placements suggested by some of the individual members. The member's status in the group determined, at least in part, whether or not his proposals were considered. Status depended on the member's personality and clique membership, and the success of his previously adopted proposals.

It has been assumed that the rational man of classical decision theory selects the optimum alternative from the universe of choices. From the



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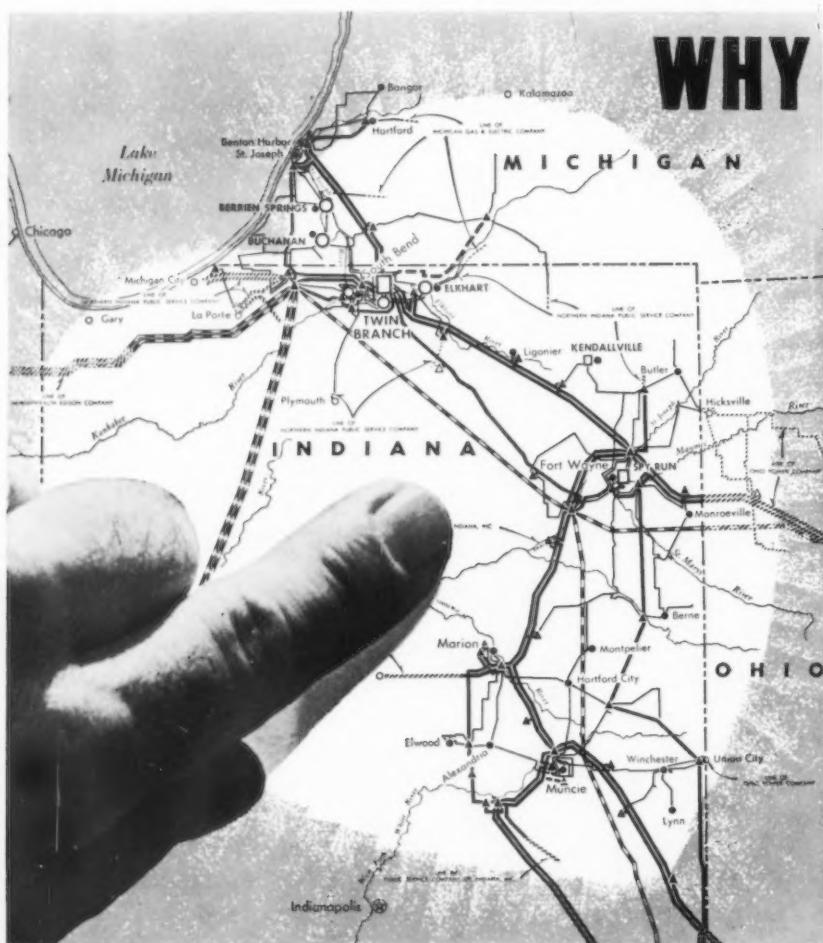
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above discussion, it is apparent that the total universe of choices is not considered. Even with this small number of alternatives, the optimum can be chosen only if all alternatives can be compared and evaluated by a set of criteria. In the situation described, such comparisons could not be made. Even when the market potentials of each sales region had been determined by research, the actual results depended to a large extent on the actions of the competing group. The application of the theory of games was impractical due to the limitations of time, the complexity of the mathematics which would be involved, and lack of knowledge of the pay-off functions.

However, approximate criteria were available which described minimally satisfactory alternatives; some of the action choices available did meet these criteria, at least in the subjective sense. For instance, some of the market regions had consistently yielded satisfactory sales. The placement of salesmen in these regions was regarded as a satisfactory alternative even though it was not possible to determine optimum numbers of salesmen and their optimum distribution. In other regions, where the market was tighter and the results less certain, it was much more difficult

for the groups to reach a decision which they regarded as even minimally satisfactory. The gap between the level of aspiration (the sales target set by the group) and the anticipated achievement was large. Search activity, though vigorous, tended to become stereotyped and aimless.

Over a period of time, when actual results were available and the courses of action could be evaluated, it was apparent that the various action alternatives were tested sequentially. One group spent steadily on extra salesmen and advertising; but when this failed to achieve the anticipated results, expenditure was transferred to research and development. This too proved to be abortive, and a return was made to advertising. The second group started out in a similar fashion with similar results, but their reaction was to increase the number of salesmen and reduce advertising. They too switched to expenditure on research and development and finally to more advertising. This sequential testing of alternatives seems much closer to reality than the assumption of the consequences of all possible alternatives. It was also significant that of the three main avenues of expenditure designed to increase sales, the least predictable avenue—product research and development—was the last to be tried.



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Each group was asked to set a long-run sales target which they were to review each time they met. The total available sales per time period were 35, yet each group quickly decided on a target of 25 sales per time period and held it long past the time when it could possibly be attained. One group held it for 15 weeks (the groups met once a week) then dropped it to 22 and, after a slight recovery, lowered it to 20 for the last three weeks. The other group, after a more cautious start, also settled for 25 for most of the period of the game. Their actual sales were better than the first group, and they did not lower their target figure until the last two weeks.

The idea of an objective to be reached by a certain time is common enough in real business situations and seems to embrace the concept of level of aspiration quite adequately. The reactions of both groups were to set levels of aspiration above what could reasonably be expected. When it became obvious that the discrepancy between achievement and aspiration was large, the level of aspiration was shifted downwards—towards the level of achievement.

The groups were also asked to forecast their sales in the next period. Behavior in this case was more complex, but it did seem that the sales forecast took on at least some of the aspects of the concept of level of aspiration. Generally speaking, failure to reach a sales forecast resulted in a lower forecast for the next period; success re-

sulted in a higher forecast. This behavior was tempered by two further considerations:

1. If some event to occur in the next period would increase sales (for example, a number of salesmen might complete their training and enter the field), the forecast was usually raised despite poor results in the preceding period.

2. If, in the light of experience in the immediate past (the last few periods), a sales result was atypical on either the high or low side, it was ignored for the purpose of forecasting the sales in the next period.

Another phenomenon illustrated by the behavior of the groups was the tendency towards conformity despite the absence of overt pressure. Each member of the group was asked to record what he thought should be the group's sales target on a slip of paper. These were collected before the group was asked to set a target. As would be expected from our knowledge of small groups, the range of the individual target figures narrowed rapidly over the first few meetings, all tending to converge towards the group target figure, which remained relatively constant.

The traditional goal of the firm is the maximization of profit, and one of the major problems of this goal is to make it operational. When considering the various action alternatives, should the firm attempt to maximize short- or long-run profit? It is virtually impossible to make the goal

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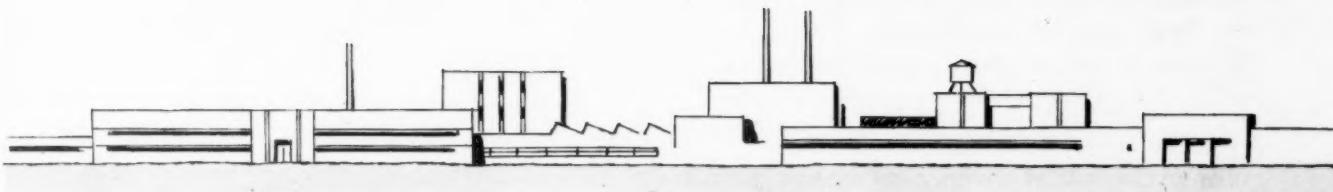
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of long-run profit an operational goal. Like many firms, the groups were faced with this dilemma; high production meant lower manufacturing costs, yet it cost money to increase sales. The interrelationships between these two factors were both complex and uncertain. Neither of the two groups was prepared to be explicit about its objectives, but the general tenor of the discussions indicated that both were attempting to maximize sales rather than profit. Some individual members said quite plainly that their objective was to drive the other group out of business. On the other hand, it was not possible to neglect profits; they were a necessary condition for survival and growth. The obvious advantage of maximizing sales rather than profit was that such a goal was operational.

Additional expenditure on advertising would clearly increase sales or prevent them falling as far as they would otherwise have done due to competitive action. Whether additional expenditure on advertising would increase profit, let alone maximize it, was a much more difficult question. It would seem that organizations do, in fact, tend to favor or adopt goals which are operational rather than those which are nonoperational.

In this brief note, it has been shown that groups of young executives taking part-time management courses can be placed in simulated decision-making situations. This procedure proves to be a valuable teaching aid in providing experience in integrating some of the major management functions. It also provides evidence tending to confirm some of the hypotheses and propositions derived from modern organization theory. These hypotheses could be tested more rigorously by paying more attention to the experimental design, provided that this could be done without introducing artificial elements into the situation. If this letter stimulates further work in this direction, it will have served its purpose.

N. F. DUFY

*Head, Department of Management Studies  
Perth Technical College  
Perth, Australia*

#### FARM SURPLUSES

TO THE EDITORS:

I have waited for some time to reply to the article, "Farm Surpluses: How to End Them," by the

Cargill Board Chairman, John H. MacMillan [*Business Horizons*, Spring, 1959]. Since I disagreed violently with most of the article, I wanted time to consider it. Of course, I cannot disagree with many of the statistics because I don't know the sources. I have, however, quite a library of literature on the farm problem. It has been a hobby of mine for ten years. I even sent one set of articles to a congressional candidate; I have not seen him or the material since.

"Subsidy is the oldest economic principle written into the laws of the United States. It has been used since the inception of our government to influence the direction of economic development and to moderate the impact of the normal workings of supply and demand" [*Government Subsidy Historical Review*, June, 1958]. Since Mr. Benson began his ruinous crusade against farm subsidies, aided and supported so vigorously by Ike and Dick, "subsidy has become a catchword of this deliberate drive to break down the effective price supports for major crops." When it comes to being a ward of the government or "kept," the farmer has many rivals who make him a rank amateur.

If we are to do away with subsidies, why not start with the oldest of all, the tariff? I might also mention the U.S. post office. (Postal deficits over a ten-year period—1946 to 1956—in behalf of business have exceeded the cost of farm price support programs through the CCC during the last twenty-five years.) Estimates of postal subsidies, furnished by the postal department to some of our prominent magazines, show that each year *Life* magazine receives almost \$10 million in subsidies, the *Post* over \$6 million, and *Coronet*, \$706,000.

In addition, we can mention subsidies to airlines and merchant shipping, accelerated tax write-offs, depletion allowances to oil companies, federal noninterest bearing deposits of billions in private banks, certain services of the Federal Reserve, which amount to subsidies for large private bankers, and sales of federal surplus properties at a loss to private business. Then we have unions' collective bargaining, minimum wage laws, administered prices, and so forth. Senator Douglas in his report to the *Chicago Tribune* on inflation said: "Prices of the goods which are highly competitive like farm products and raw materials have gone down, while the prices of goods which are largely non-competitive and where only a few firms or manufacturers control the market, like steel, steel fabricating and automobile industries, have risen markedly. According to the testimony of Dr. Gardiner Means, the eminent economist, before the Senate Antitrust and

plan now to attend . . .

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Monopoly Subcommittee, the monopoly or administered price industries account for 85% of the gross increase in the wholesale price index since 1953."

Elliot V. Bell, former New York State Superintendent of Banks under Dewey, recently told an American Bankers' Association Convention that the Federal Reserve system's attempt to halt the wage-cost-price spiral through its tight money policy is like "burning down the barn to kill the rat. You may succeed but only if you go to the length of bringing on recession and unemployment. It is a crude weapon which squeezes many but doesn't affect others."

I wish to mention a statement on the second page of Mr. MacMillan's article where he states: "The remaining *one-half* of farm marketings, among them such major items as meats, vegetables, and fruits, are raised entirely without subsidy and successfully sold in the competitive free market." If I am correct, are not all of these regulated by or have powerful marketing associations with great power to set prices, dump, and so forth? The fruit and vegetable associations in California are well known to most of us. If millions of farmers could meet and do likewise, they could also successfully compete in a "free market." This seems impossible under present conditions.

Three Iowa State University economists have completed a valuable study entitled "Projections for the Feed-Livestock Economy 1959 to 1963." They predict that, with no acreage controls and no price supports, average market prices by 1962 would be: hogs, \$10.80; cattle, \$11.51; corn, \$.66; and wheat, \$.74. These are based upon normal increases in each commodity.

Some experts disagree with Mr. MacMillan's statistics on the large-sized corporate producers. Ted Savich of Rensselaer, Indiana, in a letter to the *Wall Street Journal* in August, 1960, presented the following statistics:

"In the corn belt, according to economics experts in our agricultural universities, the most efficient sized unit now approaches 300 acres. Much bigger units as well as much smaller units decrease efficiency. This unit is operated by a family; the capital investment amounts to over \$150,000, which includes land, buildings and improvements, implements, livestock and working capital. Three per cent return on this investment amounts to \$4,500. In spite of the high risk level at which this capital is invested, this farming unit does not even quite return this low interest.

"Expansion to 'factories in the field' under certain conditions may appear more efficient than

the family farm, but closer inspection reveals that these oversized units are intrinsically far from competitive with the family owned, family operated farm business and that they persist only because of exploited, extremely cheap labor and tax advantages.

"Solution to the farm problem revolves around establishing a method whereby farmers are enabled to produce, not as much as they are able, but for a market. Industry in America is able to do this and their method is basic to the operation of any industry.

"The oil industry supplies many analogies to farming and also blazes the trail which we must follow to a farm solution, including the proper role of Government. Not too long ago the oil industry was plagued by cut-throat competition and overproduction. It demanded and obtained from Government a strict control on its production. At full production it would produce a surplus in excess of 200% per annum compared to agriculture which now produces an all-time record 8% surplus per annum. Just as in the oil industry it is to the advantage of the industry and to the country to conserve the oil reserves for the future when they will be needed, so in agriculture it is to the advantage of the farmer and of America to conserve our soil resources for future generations. Such a program would cost the treasury a pittance."

In my opinion, a program of controls and decent price supports would cost the government much less than ruinously low price supports. The Benson program was not run and dominated by the farmers, but by and for the benefit of food processors, distributors of farm commodities, world traders, and a small fraction of the American Farm Bureau leaders. These groups do not represent the bulk of the farmers.

The average farmer would like to be free and independent of controls and subsidies, but when he is operating in the present economy full of props and subsidies (for other segments of our economy) far greater than he receives, he can't stand alone in a "free market" because in a very few areas do we have such a thing in this twentieth century. Yet the farmer, in many areas of public opinion, seems to have been "cast in the role of chief villain in a drama of Government largesse" [Government Subsidy Historical Review].

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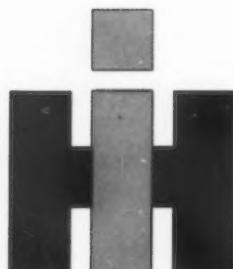
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## Pricing the Compensation Structure

ARCH PATTON

**S**HORTLY AFTER the war, a major food processor set up a division to make and sell a recently developed "family" of chemicals. The salary structure of the new division was based on the highly successful salary administration program of the parent company, and the recruiting of an executive team was started.

Several years later, with sales substantially below forecasts and losses mounting rapidly, top management made an intensive study of the chemical division problem. It quickly became evident that divisional management was inadequate; promising opportunities had been ignored, while large sums had been spent attempting to exploit relatively barren areas. Furthermore, turnover at middle and lower executive levels, already dangerously high, was increasing.

In analyzing the steps that had led to this disastrous situation, corporate management reached two conclusions. First, the compensation offered divisional top management, though adequate by food industry standards, bought second-rate executives in the higher priced chemical industry. Second, the relatively low level of compensation set for top divisional executives resulted in narrowing the "spread" between the various levels of responsibility. As lower echelon executives—who had joined the company with high hopes of the growth opportunity in the new division—became aware of this compression, these opportunities appeared less and less attractive. Consequently, they looked elsewhere for jobs.

Situations like this occur repeatedly. The apex of the company pyramid or the divisional pyramid is underpriced, and executives either leave for more attractive opportunities or fail to perform in an adequate way. When the former happens, the best executives are the first

*Mr. Patton is Director of McKinsey & Company, Inc., management consultants. This article is from his forthcoming book, Men, Money and Motivation.*

to depart. As a consequence, fewer and fewer talented executives inherit bigger and bigger jobs until, finally, the top management group reaches a state of uniform mediocrity.

The preceding illustration clearly defines the two principal functions of a compensation structure: to attract and retain the services of executives having talents that make for success in a particular industry, and to motivate them to seek ever-increasing responsibility.

Different industries seek different talents, and the levels of their compensation structures should reflect these variances. Some talents, moreover, are rarer than others; and the law of supply and demand is usually at work. The executive on whom stockholders can count for a \$5 million profit in high-fashion retailing is harder to find; hence, he is worth more than the man who can successfully deliver the same profit in the public utility industry, for instance. Compensation surveys show that the difference in pay for these two contributions may range from 150 to 250 per cent. Further, logic supports such a differential between a brutally competitive market on the one hand and a relatively secure position on the other.

This contrast also illustrates the second key objective of the compensation structure: a spread between levels of responsibility that reflects the contribution of the individual and motivates him to seek increasing responsibility. The high-fashion retailer contributes great personal skill to the attainment of a \$5 million profit; decision after decision will be almost wholly his, and his pay may double or treble that of his number 2 executive. This not only rewards the top man for his contribution, but provides the number 2 man with the incentive to make the sacrifices necessary to attain such skills himself. Needless to say, relatively few of them "make it!"

The top utility man, on the other hand, is making his contribution largely through other people, with considerably less personalized decision-making. He will be paid 50 to 75 per cent more than the number 2 executive, but seldom more than that. The number 2 man in

a utility, for his part, usually has a clearer path to the top than his high-fashion counterpart and more consistently gets there; hence, he rarely needs the same degree of incentive to struggle toward the top spot.

### PRICING THE STRUCTURE

The pricing of the compensation structure has been complicated by the increasing use of the executive bonus. Since the war, the number of executive incentive plans has risen threefold with approximately 60 per cent of the companies listed on the various stock exchanges reporting the use of such a program. The complication, of course, stems from the wide variances in the salary portion of total compensation that are found in industry. Some bonus plans pay as little as 10 to 15 per cent of salary; a majority pay bonuses averaging from 30 to 100 per cent of salary; and a fair-sized group pay bonuses that top 200 per cent of salary. The famous J. C. Penney executive incentive plan, for instance, provides that no salary shall exceed \$10,000, but bonuses approximating ten times salary are not unusual.

This situation means that pricing involves two considerations for most companies: establishing a competitive level of *total compensation relationships*, and developing a *salary structure* that meets the more or less fixed-income needs of executives in the individual company situation.

#### Total Compensation Relationships

Pricing the total compensation structure—salary plus bonus—for competitive purposes probably has received more attention in recent years than any other aspect of compensation administration. Some industries have a highly developed exchange of compensation information where executive positions are concerned. Individual companies make their own compensation surveys from time to time, or retain an outside organization to do it for them. And,

of course, the industry-wide survey is by far the most commonly used pricing device, because it reports compensation on an industry-by-industry basis, by size of company, and covers a great variety of management positions.

The survey has great value in pricing the compensation structure when used with a full understanding of what it can and cannot do. Unfortunately, compensation surveys are sometimes used without full appreciation of their limitations. For example, the president of a medium-sized company, having lost a key executive to a competitor, decided salaries were too low and raised all upper-level executives to the exact percentage of his own salary that a survey indicated was industry practice. This decision overlooked three important points: (1) money was not a factor with the executive who quit (he simply disliked working for the president); (2) the president was also the principal owner and paid himself less than his job was worth, so that the increase left the management team still relatively underpaid; and (3) the president himself was actually the chief financial officer and top engineer, so both executives who had these titles ended up being substantially overpaid.

The most critical weakness of the compensation surveys, from the standpoint of pricing the structure, stems from the fact that the upper echelon executive makes his own job to a degree that job titles cannot recognize. The survey focuses on the "average" executive, a nonexistent composite. But the surveys also indicate that the spread between the lowest and highest paid incumbents in the particular job may be as much as 500 per cent to 800 per cent. Therefore, it is just as logical to equate a particular company executive with the lowest or the highest paid executive in the survey as with the average. Yet this is almost never done; each executive somehow becomes average for the purposes of comparison, for management usually has little basis for judging how well their particular job incumbent measures up to other executives included in the survey.

*Compensation Philosophy.* — But the compensation surveys have simplified the pricing problem. In the first place, they have demonstrated that a sound relative value for a chief executive's position can be established. Figure 1 shows how closely the total compensation of chief executives in the oil industry, for example, is related to increases in company size measured by sales. Only a few chief executives are paid more or less than 30 per cent on either side of the mathematically fitted trend line.

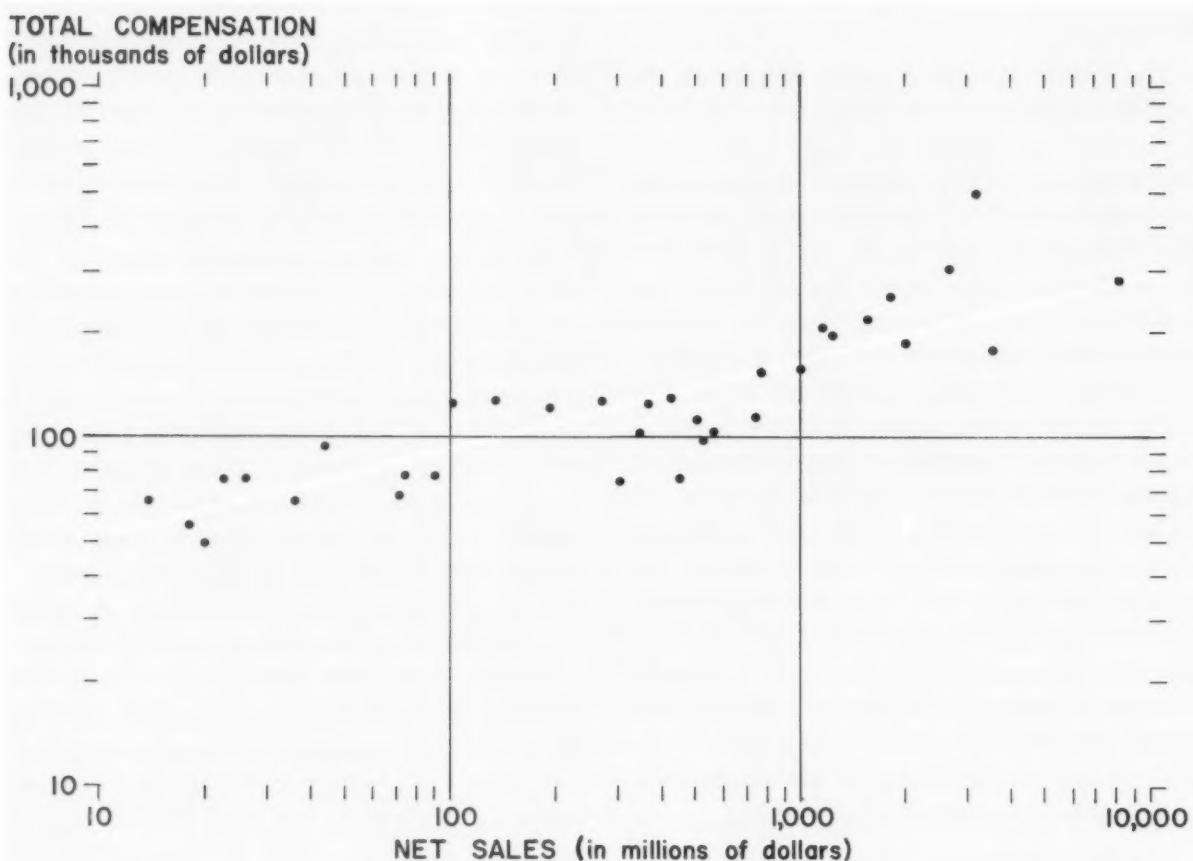
Since the total compensation range of the chief executive provides a frame of reference for all other top-level jobs, the philosophy of compensation embraced by the company becomes of major importance. For example, a philosophy of "matching" industry figures for compensation purposes is often adopted. On the other hand, companies that are growing rapidly may choose to pay below-average compensation, and rely on the speed of promotion to provide adequate incentive. A major electronics manufacturer, growing at the rate of nearly 50 per cent annually, has been able to build capital faster by moderately and deliberately underpaying middle management. However, the average executive in this company is promoted in less than two years, and not only shows no signs of recognizing any underpayment, but is enthusiastic about his promotional opportunities.

The well-established company also needs to consider the possibility of paying above-average compensation by a method that will yield a good return on this investment. Many successful companies follow this course with outstanding results in long-term profits. Some companies combine these approaches by paying above-average compensation to upper echelon executives and average compensation or less to lower level employees. This requires unusually skillful administration to be effective, but such a dual philosophy has been successful in a number of instances.

Whatever basic philosophy of compensation is adopted, however, the level of compensation established for the chief executive normally

FIGURE 1

**Compensation of the Chief Executive in the Petroleum Industry**  
*(related to net sales, 1959)*



has a direct effect on the income of the rest of top management. There are occasional examples of poorly paid presidents with highly paid vice-presidents, but this is so rare as to be inconsequential. This means that setting the compensation range for the chief executive is critical to pricing the structure. The surveys have thus made it possible to stake out the range of compensation between the base of the pyramid (set by union negotiation, for the first level of supervision necessarily fluctuates with the hourly pay scale) and the apex of the compensation pyramid (the chief executive). This, in turn, provides a rationale for establishing compensation ranges for the various echelons of executives between these two extremes.

The compensation surveys are also useful in

checking the validity of a compensation structure, set by job-value comparisons between the top and the bottom of the pyramid. While many positions in the average company are not directly comparable with jobs having similar titles elsewhere, a number of so-called "benchmark" positions are found at all levels, and do have reasonably determinable market values. Some of these jobs (plant manager or district sales manager, for example) have fairly standardized operating responsibilities. Others, such as plant accounting manager or patent counsel, are professional in nature and may not have standardized responsibilities.

By carefully comparing the market values of the benchmark jobs indicated by the surveys with the tentative compensation structure de-

veloped as a result of the job evaluation process, unrealistic relationships may be disclosed. The most frequent problem area is the lack of adequate "spread" between levels of responsibility; this dilutes the incentive to seek greater responsibility—one of the major objectives of the compensation structure.

*The Internal Value System.*—The final arbiter in pricing a position in the structure, of course, must be management's judgment of its relative value by company standards. While the market value of a job is a checkpoint of some consequence, the company structure should not be distorted to accommodate random "outside" job values. Each company has its own internal value system that reflects the economics of corporate success and the contributions of individual executives. Adjustments to it need to be assessed on a fairly long-term basis.

Such an internal value system has usually been built up over an extended period, and generally reflects not only the functional needs of the business but the strengths and weaknesses of individual executives as well. In other words, the internal value system is normally a more important basis than the market place for evaluating a particular position in a company—and it is more trustworthy.

#### *The Salary Foundation*

While the total compensation is the competitive yardstick of market value, salary is the foundation of the structure of financial motivation. Usually, salary will directly determine the pension that an executive will receive, provide the basis for any stock option, be the principal measure of the life insurance coverage available to his estate, largely shape the benefits that will accrue under a savings or deferred compensation program, and play a key role in the size of his bonus. In addition, of course, salary provides the executive with the necessities of day-to-day living. Also, the size of his salary is a status symbol of major consequence, for it is a generally accepted measure

of the approval of an individual by his associates.

By any standard, therefore, salary administration is a critical element in the affairs of a company. This means that pricing the salary structure assumes more than average importance. But the complications that corporate bonus plans have injected into the salary administration process have resulted in less attention being given to the salary structure than it deserves.

*Salary - Bonus Relationships.*—Comparatively few companies have studied their salary-bonus relationships to determine what an optimum relationship might be at the various levels of executive responsibility. In most instances, bonus programs have developed without any hardheaded evaluation of the salary-bonus relationships likely to provide the greatest motivation per dollar expended. For example, what amount of bonus payment provides maximum incentive? Does this vary by level of responsibility? Should top and lower echelon executives receive the same percentage of bonus to salary? How far down in the organization should bonuses be paid? Should all eligible executives receive bonuses?

Some rationale is essential for integrating the salary structure with a bonus philosophy. In the early days of executive incentive plans, a common compensation philosophy was that salary represents the market value of the job, with the bonus being a reward for contribution "beyond the call of duty." However, since half of industry pays bonuses and the other half pays straight salary, the question of what constitutes fair market value for a position has become increasingly important. If the fair market yardstick is total compensation, addition of a 30 to 50 per cent bonus can only be justified from the shareholders' point of view if such rewards are limited to the relatively few executives making clearly outstanding contributions to company profits.

This beyond-the-call-of-duty philosophy of bonus administration has proven unworkable;

management finds it cannot live with the practice of paying bonuses to only the relatively few executives whose performances are clearly above average. There is an overwhelming pressure to make some bonus payment to the far larger group of executives whose contributions are average or less.

When bonus payments must be extended to those executives whose contributions are average or less, the thesis that salary represents full market value of the job and that bonus measures contributions beyond the call of duty is obviously invalid. Moreover, since management bonuses tend to average between 30 per cent and 50 per cent of salary, such a philosophy lifts total executive compensation to a level that raises questions about the sanctity of stockholder interest.

***Discounting*** Salary.—In my judgment, a realistic compensation philosophy should recognize that salary and bonus are integral parts of the whole, but that each fulfills an appointed role. Salary reflects the long-term values of the position, and the bonus measures the short-term contributions of the individual. In this light, the salary structure is simply "discounted" from the total compensation structure. The discount varies with (a) the size of the fund normally provided or expected to be provided by the bonus plan, (b) the impact of the individual executive position on company profits, and (c) the financial ability of the executive to live with variations in his income that result from fluctuations in the bonus. For example, the salary of a senior executive whose total compensation level is \$60,000 might be discounted 40 per cent from his total compensation figure, while a junior executive at a total compensation level of \$20,000 might have his salary discounted only 10 per cent from the total income figure.

This approach recognizes that a company cannot afford to pay executives salaries equal to a competitive full market value (salary plus bonus) for their jobs, and then add bonuses that are large enough to provide real motivation. As a compromise, a portion of the market

value of executive positions is withheld to be paid in one lump sum in the bonus.

However, if the salary plus the bonus thus arrived at merely equals the market value of the various positions, executives have good grounds for the complaint that they are being penalized in low bonus years. This is a valid criticism under such circumstances, but one that can be overcome by permitting in good profit years bonuses large enough to yield a total compensation that is well above the market.

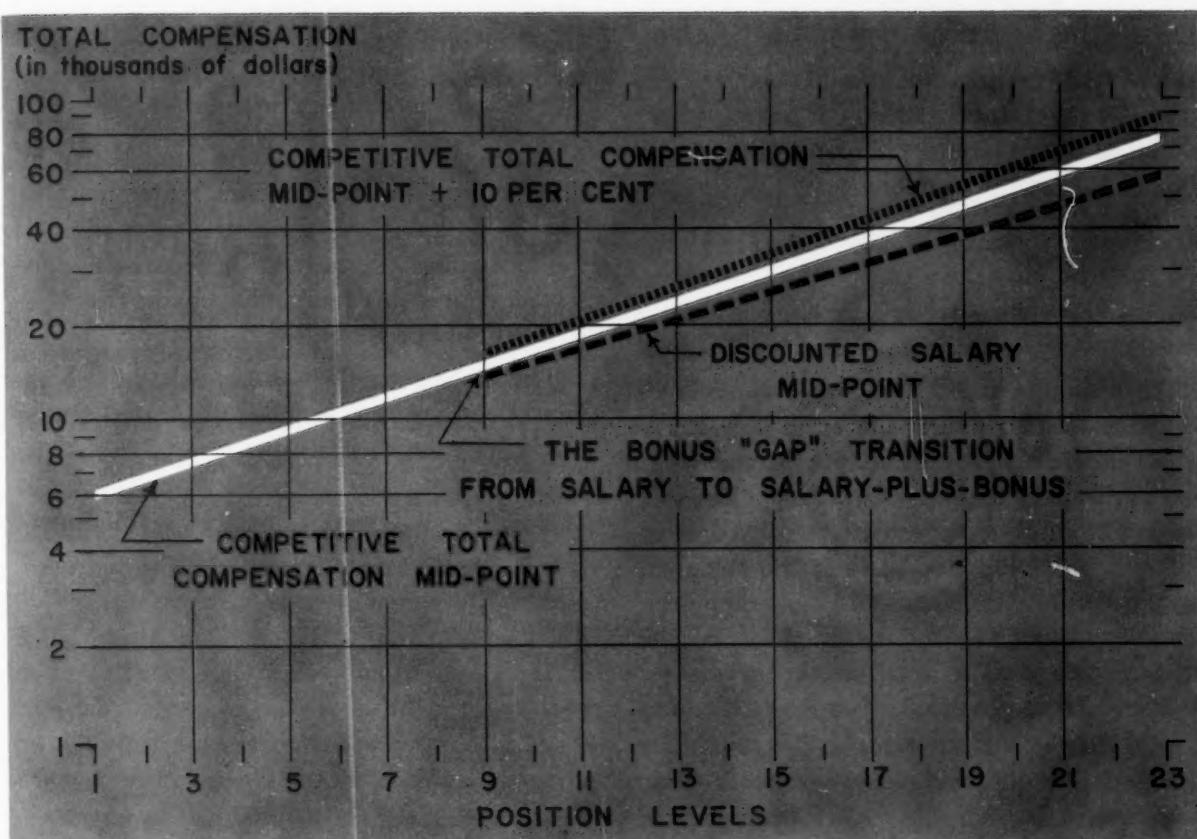
One technique for reassuring executives on this point is to provide that the discount be somewhat smaller than the normal bonus expected in an average year. For example, if the normal bonus award for a particular level of executive responsibility is expected to be 50 per cent of salary, the discount from total compensation for this level might be set at 40 per cent in arriving at the salary structure. Under such conditions, top management accepts the philosophy that company executives are "worth" approximately 10 per cent above the market. Executives, in their turn, agree that this premium compensation will be paid only when earned—when profits top a specific figure. To make such a philosophy reasonable to shareholders, above-average profits should accompany above-average compensation.

In poor bonus years, when the executive's total compensation falls below a competitive industry level, he recognizes, of course, that he has an opportunity to more than offset this loss in average and good years. (In unusually good profit years, for instance, the bonus payment could be well in excess of the 50 per cent bonus level noted above.)

Figure 2 shows the practical application of this discounting approach to developing the salary structure. This particular company has twenty-three position grades or executive levels of recognizably different values. Eligibility for bonus payment starts with grade 9, thus creating a problem of change-over from straight salary to salary-plus-bonus that needs to be allowed for in developing the salary structure.

FIGURE 2

## The Discount Approach to Developing a Salary Structure With a Bonus Plan



The figure illustrates the three steps involved:

**Step 1** The white line represents the mid-point of total compensation determined on the basis of the bench mark jobs in each of the twenty-three position levels. This measures the competitive market value of these jobs as closely as they can be assessed.

**Step 2** The dotted line is simply a 10 per cent addition to the white line to establish a base for discounting that is reasonably higher than a competitive average total compensation level.

**Step 3** The incentive fund, in this instance, is expected to be adequate in normal years for paying 50 per cent bonuses to executives at the top of the structure, scaling downward to 15 per cent bonuses at the lowest level. The line of dashes, therefore, is the salary struc-

ture discounted from the dotted line established 10 per cent above average competitive total compensation values.

On this basis, the salary structure at grade 9, where bonus eligibility starts, is only 5 per cent below where it would be on a nondiscounted basis; hence, the penalty of a no-bonus year at this level is not heavy. The discount widens at each higher level until it reaches approximately 40 per cent at the top position. Thus as responsibility increases, the dependence of the individual executive on the bonus for a truly competitive total compensation also grows. (It will be noted that the top discount of 40 per cent compares with an expected bonus payment at this level of 50 per cent. The differential of 10 percentage points thus reflects company philosophy that its executives should be paid 10 per cent above the market when

they earn it under the bonus program, in return for acceptance of the discounting approach to the salary structure.)

This approach to establishing a salary structure is not without its problems. However, it does provide a workable rationale—fair to both executives and stockholders—for setting salary ranges in bonus-paying companies that are in competition with concerns paying straight salaries.

#### PYRAMID STRUCTURES

There probably is no such thing as an ideal compensation structure; there are only structures that are realistically adapted to the needs of a particular company. Over the years, two distinct kinds of compensation structures have evolved. The oldest of these is the so-called steep pyramid. The Neanderthal of compensation structures, it is patterned after the entrepreneur-worker relationship of earlier days. An example taken from a reasonably large company will explain what is meant by the steep pyramid:

	Salary	Percentage of President's
President	\$129,000	100%
Sales vice-president	23,500	18
Manufacturing vice-president	19,500	15
Chief engineer	12,250	9½
Treasurer	17,500	13½

Needless to say, this president has a hand in virtually every decision, a situation that tends to be true with steep pyramid compensation structures even in functional areas. For instance, the sales staff of an appliance manufacturer is paid as follows:

	Salary and Bonus	Percentage of Vice-President's
Sales vice-president	\$ 85,000	100%
Sales manager	26,500	31
Retail sales manager	19,750	23
Market research	11,200	13
Order handling	8,750	10

In this example, literally nothing is done without the approval of the sales vice-president. None of his supporting executives could replace him should he be killed in a road accident on his way to work, a fact that disturbs the board of directors.

Broadly speaking, the steep compensation pyramid is found in the more competitive industries and among the smaller companies. This is logical. The risks to the company and the individual are greatest; hence, the reward for accepting this relatively greater responsibility should be highest.

The other extreme is the so-called flat compensation pyramid, which is illustrated by the following salary structure:

	Salary	Percentage of Chairman's
Chairman	\$155,000	100%
President	140,000	90
Executive vice-president	120,000	77
Executive vice-president	115,000	75
Vice-president	95,000	61
Vice-president	90,000	58
Vice-president	85,000	55
Vice-president	65,000	42
Vice-president	60,000	39

Frequently, a distinguishing feature of the flat compensation pyramid is committee management. As a result, it is difficult to determine who is responsible for what, and job values tend to be compromises. From the stockholders' viewpoint, however, these compromises can be costly, for they often upgrade the compensation of the less valuable men on the executive team, rather than of the more valuable men. These overpriced functional heads, in turn, tend to overpay their subordinates who tend to overpay theirs, and so on down the organization ladder.

One great weakness in the flat pyramid—in company or function—is the strong tendency to promote on a seniority basis. Since decisions are frequently group decisions and there is an inadequate basis for judging individual contribution, a ritualized promotional process develops. This naturally results in a downgrading

of the incentive to outstanding individual performance, for performance weighs relatively lightly on the scale of success under such conditions. When the late General George C. Marshall was promoted to Chief of Staff of the Army (the top of a flat compensation pyramid) at the start of our wartime preparation, it was announced that he was promoted "over" thirty-eight generals who were "ahead" of him. Similarly, when General Eisenhower was chosen to head the European invasion, much was made of his promotion "over" the many generals who outranked him. It was news when promotion resulted from talent rather than seniority. But it took the outbreak of World War II to effect this change in the army's promotional pattern.

While industry likes to regard its promotional process as more performance-oriented than that of the military, the evidence offered by many flat-pyramid companies often does not support this thesis. During times of grave danger to corporate well-being, of course, such companies react as the army did, and promote on demonstrated performance. But the tendency at other times is to emphasize seniority.

Whatever the kind of compensation structure, it should be consistent with organization realities. For example, the number 2 man in the average company will tend to be paid 55 per cent to 65 per cent of the chief executive's compensation. The surveys have shown this to be a reasonable spread. However, the number 2 executive in a large division is likely to receive 50 per cent or less of the compensation paid the division manager. The reason for the variance lies in the more restricted nature of the contribution made by the number 2 man in the division, for the division manager also draws on the skills of top management in making decisions.

As divisions get smaller, the spread between

manager and the number 2 man tends to narrow. In a small division, for example, the number 2 man may be paid as much as 85 per cent or 90 per cent of the top divisional executive's stipend. The reason here is clear-cut; the compensation market for first-line supervisors is relatively close to the market for managers of small divisions. Thus intervening functional executives must be paid only slightly less than the manager to keep their pay enough above first-line supervisors to provide promotional incentive.

Position values are more or less in a constant state of flux. In recent years, engineering and accounting talents have been in great demand. Hence the market value of these skills has tended to increase faster than that of most other functional skills. If the compensation structures do not reflect this fact of life relatively quickly, the more talented of the engineers and accountants will drift away to jobs offering greater opportunities.

IN OTHER WORDS, the compensation structure is a tool, not an end in itself; and the usefulness of this tool is maintained only by sound pricing. The compensation of engineers might have been equated in the structure with that of manufacturing personnel at some time in the past, but this is no reason to assume that this tandem relationship will continue indefinitely. Also, the structure should be sufficiently flexible in its pricing to accommodate the great variation that occurs in individual capacity, particularly at the top of the organization.

In the final analysis, the effectiveness of the compensation structure in attracting and motivating executives depends on the skill with which it is administered. And an up-to-date pricing of the structure is one of the key administrative skills determining success or failure.

## **Business Horizons Announces 1960 McKinsey Awards**

*Business Horizons*' Advisory Board announces the recipients of the McKinsey Foundation Awards for the two outstanding articles appearing in *Business Horizons* in 1960.

Neil Chamberlain, author of "The Need for a New Economic Unorthodoxy," which appeared in our Summer, 1960 issue, receives the \$1,000 honorarium for the best article. Second place goes to Walter Buckingham who receives \$500 for his article, "The Human Side of Automation," in the Spring issue of 1960.

Mr. Chamberlain is Professor of Economics at Yale University. He has written several books, among them *A General Theory of Economic Process, Labor*, and *The Impact of Strikes*.

In "The Need for a New Economic Unorthodoxy," Mr. Chamberlain asked whether the age of affluence has so deeply imbued us with economic orthodoxy that dissent is no longer respectable. Perhaps our day needs, he reminded us, those economic heresies that bring about progress by challenging conventional thought. He called for a resurgence of imagination and inventiveness to give the fresh perceptions necessary in a rapidly changing world.

Mr. Buckingham has been a consultant to industry and government, an arbitrator in labor-management disputes, and a consultant to the Senate-House Economic Committee. He is Director of the School of Industrial Management and Professor of Economics at the Georgia Institute of Technology.

His article, "The Human Side of Automation," deals with one of the major social problems of the decade. Automation is changing our life patterns, and its full effects have yet to be felt. Mr. Buckingham examined the nature and the consequences of these changes and suggested how we should handle automation if we are going to derive from it the social benefits that we desire.

When many fine articles are published

during a year, it is far from easy to select those two with that extra quality which sets them above the rest. A number of excellent articles were not considered because of an editorial board policy that eliminates any articles written by members of the Indiana University faculty or by McKinsey employees. Making the final selections from those articles that were eligible called for careful evaluation on the part of the *Business Horizons*' Advisory Board. We congratulate the winners on their splendid contributions and the Advisory Board on their excellent judgment.

These were the criteria used in making the awards: (1) identification of emerging issues in business; (2) sustained impact—does the article provide an analysis of lasting value for businessmen? (3) quality of presentation, including style, and depth of perception. These are the same criteria used in evaluating any article for publication in *Business Horizons*. As standards of value they are derived from the aims and purposes of the publication.

The *Business Horizons*' Advisory Board for 1960 was composed of these members:

Robert D. Calkins, President, The Brookings Institution

Byron K. Elliott, President, John Hancock Mutual Life Insurance Company

D. Mead Johnson, President, Mead Johnson and Company

Dexter M. Keezer, Vice-President and Director of the Economics Department, McGraw-Hill Publishing Company

Robert C. Liebenow, President, The Chicago Board of Trade

James E. Patrick, Executive Vice-President, The Valley National Bank, Phoenix

James C. Worthy, Vice-President, Sears, Roebuck & Company.

The McKinsey Foundation for Management Research, Inc. will, in 1961, again make awards to the authors of the two best articles published during the year.

STEFAN H. ROBOCK

## Six Visiting Marxists Meet U.S. Business

CAN U.S. businessmen explain effectively the American capitalistic system and its means of achieving growth and stability to a delegation of professional Soviet economists? How much of an impact can be made through seminars with leading academic economists and government officials? What image—apart from official propaganda writings—do the high priests of Marxian economics really have of the American economy? These were the major questions that faced the business-sponsored Committee for Economic Development (CED) as it planned the first exchange visit of Soviet economists to the United States.

The visit was first proposed in January, 1959, when Donald K. David, former dean of the

Harvard Graduate School of Business and chairman of the CED, met Deputy Premier A. I. Mikoyan of the Soviet Union at a dinner in New York. Aware that their countries had been exchanging visits of almost every kind of artist—from ballet dancer to athletic star—these practical businessmen decided that an exchange on a “higher level” was in order. They agreed that mutual understanding might benefit considerably from an exchange of professional economists who, with scholarly intent, would examine at first hand the other system’s sources of economic growth.

With even Nikita Khrushchev planning to visit the United States, 1959 was a “hopeful” year in American-Soviet relations. With the blessings of the U.S. State Department and of Khrushchev himself, five economists high in the hierarchy of the science as practiced in Soviet Russia, and a younger economist who acted as interpreter, arrived in the United States in mid-October, 1959. (Their United States counterparts went to Moscow in the summer of 1960.)

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The Soviet economists were dedicated Marxists when they arrived and when they departed. The thirty-day tour of the United States and the many contacts with business leaders, university professors, and others gave the Soviets a more detailed understanding of the U.S. economy and must have changed many of their impressions of our economic system. But without any doubt, the faith of the Soviet economists in Marxian economic philosophy was unshaken.



#### ARRANGING THE SCHEDULE

Getting such a program under way was quite an adventure. Because of the reciprocal closed area policy of the Russian and U.S. governments, arranging a schedule posed problems. The visitors could see New York, but not Brooklyn; they could go to Boston, but not by highway. Their request to visit the Tennessee Valley was granted, then cancelled after their arrival because of difficulties in negotiating reciprocity for the Americans' visit to Russia. Detroit and San Francisco are "closed cities" to the Soviets, but the State Department allowed them to be included in the itinerary. Since the guests were under the auspices and guidance of such a blue-chip, big business organization as the CED, the doors of industrial, financial, and government powers were open to them everywhere.

Khrushchev had recently toured the U.S. under heavy security precautions. Would police protection for the Soviet economists be needed in a midwestern city, one worried host wanted to know? (The State Department advised that protection was not necessary.)

Would members of the group separate for visits to American homes? (They did, first in pairs and later singly.) How many of the Soviets could understand English? (All but one.) Did they really believe, as the head of the delegation, Professor Anushavan A. Arzumanyan, wrote in a 1954 pamphlet, "What Is Imperialism," that:

"Undernourishment and famine are the lot of the toilers in the capitalist countries. Imperialism can not even assure its wage slaves of a slave level of existence.

"The imperialists are cutting down civilian production while expanding armaments production as much as possible. . . . But the imperialists do not care about the needs of the toilers. They are interested in profits, for the sake of which they are ready to drown the peoples in blood. . . ."

After their arrival it was agreed to conduct the tour with as little publicity as possible so that a hoped-for free exchange of ideas would not be disrupted by the press. This was not too difficult. After all, economists are not comely, and Khrushchev had exhausted the American newsmen only a few weeks before. The itinerary was not publicized, and so the economists were almost ignored by reporters—with a few early exceptions. A national business magazine reporting on the first day of the Soviets' visit described the new arrivals as ". . . more eager to sell coexistence, press Marxist line, than study U.S. at firsthand" and expressed some disappointment to find that the Soviets were dedicated Marxists. "Well, what did you expect us to be if not Marxists?" commented Arzumanyan when he saw the story.

A Madison Avenue firm was happy to receive publicity for its willingness to explain the economic values of advertising to such prominent anticapitalists. And except for some quick side-stepping by the Soviets, a Wall Street photographer would have caught the delegation in front of a sign that read:

THE NEW YORK STOCK EXCHANGE  
THE CORNERSTONE OF A PEOPLE'S CAPITALISM

### THE DELEGATION

The economists from Moscow were competent men—not Strumiliens, Vargas, or Nemchinovs perhaps, but trained and scholarly gentlemen. Professor Arzumanyan was a corresponding member of the USSR Academy of Sciences, Director of the Institute of World Economics and International Relations, and a specialist in the field of the political economy of modern capitalist systems. Dr. Modest I. Rubinshtein, a suave man of the world, also representing the Institute of World Economics, had lived in London and had visited this country as an official USSR observer of the 1956 elections.

Perhaps the most scholarly of the group was Dr. Kirill N. Plotnikov, former USSR Deputy Minister of Finance, who had spent three years in Bangkok as Soviet representative to the U.N. Economic Commission for Asia and the Far East before assuming his current position as director of the Institute of Economics of the USSR Academy of Sciences.

The only member of the group who did not speak English was a former deputy director, Department of Agitation and Propaganda of the Central Committee of the Communist party. Ex-farm boy Dimitri Kukin, a husky fellow in his early fifties, teaches the history of economics at Moscow State University. Contrasted with Kukin was the quiet veteran of World War II, Vladimir A. Vinogradov, a lecturer at Moscow State University and the director of exchange programs for the USSR Academy of Sciences. He could speak English but preferred not to, except at social functions where his shyness wore off.

The interpreter-economist, Vladimir Kolantai, 32-year-old grandson of Madame Kolantai, the noted aristocrat turned revolutionist and diplomat, was fluent not only in English but also in the technical jargon of economics. The only member of the delegation aside from Dr. Rubinshtein who had been in the United States before, Kolantai had lived here as a child while his father was a member of a Soviet trading mission.

Everyone in the group was good-natured, endowed with the proverbial Russian sense of humor, abstemious, somewhat puritanic, a little reserved, curious, and courteous. They were, however, sensitive to criticism and inclined to be querulous and critical upon those rare occasions when weather and timetable conspired against them.

### THE PROGRAM

For one month, the Soviet economists and their three U.S. escorts followed a strenuously comprehensive program. It was designed to show the visitors an accurate and objective picture of the sources of American economic growth from both a practical and theoretical viewpoint. Especially was it planned to emphasize—in the centers of financial, commercial, and industrial power—the roles of consumer demand, investment, new products, research and development, education, and the regulatory function of the federal government.

They saw how competition, the mainspring of the economic process, works in the highly individualized dress industry of New York, in the concentrated auto industry of Detroit, and in the highly "administered" steel industry. They observed the role of savings and investment through visits to Wall Street, commercial banks, mutual funds, and insurance companies. The growing importance of private research and development was shown by examples ranging from market research in the advertising industry to the basic scientific work of private research centers and the laboratories of electronic and scientific companies.

They observed the role of education through visits to the Harvard Graduate School of Business Administration and through seminars with leading academicians of Columbia, Harvard, Chicago, Stanford, California at Berkeley, and Massachusetts Institute of Technology.

The tour included assembly lines as well as executive suites, workers as well as company

presidents. They visited supermarkets, shopping centers, industrial parks, slum clearance projects, middle-class housing, Boston's fashionable Louisburg Square, New York's Harlem, and San Francisco's Top of the Mark. Finally, they examined the role of the federal government in meetings with such agencies as the Federal Reserve Board, the Council of Economic Advisers, the Bureau of Labor Statistics, and the Joint Economic Committee of the Congress.

They heard businessmen boast, advertising men advertise, and financiers preach the old philosophy of *laissez-faire*. They saw private enterprise at its best and at its worst. They could have talked with labor leaders, but they preferred not to. They drank orange juice (in preference to vodka) in suburban homes, watched the nightly display of violence on television, read about "payola" and dishonest TV quizzes in the newspapers, sipped champagne on jet airliners, rode sight-seeing buses, photographed the Lincoln and Jefferson Memorials, and ate hot dogs on a Manhattan excursion boat. They talked with a truck driver who earns \$10,000 a year, an investment banker whose salary is \$300,000 a year, and a female garment worker who makes \$100 a week.

#### *Soviet Impressions*

Toward the end of their tour, Arzumanyan said: "We can't complain that we were jobless. Our journey was not easy. Our impressions have changed. Questions have changed. We must study what we have observed on our return to Moscow."

The Soviets had come well-versed in our current economic literature and with a profound book knowledge of the American system, but their knowledge had several conspicuous gaps. In the broad field of economic growth and over-all trends in the U.S. economy, the Soviets were completely up to date on U.S. publications and statistics. On the other hand, in specific areas such as insurance,

commercial banking, securities, and mutual funds, the visitors were not even familiar with elementary terminology. But on being chided for the gaps, Arzumanyan's reply was direct. "Well," he said, "if we knew all of these things about the U.S. economy, we wouldn't have to come and make this visit."

The visitors absorbed a great deal of accurate and useful information about what makes America tick. They met many of the outstanding leaders of the business community and some of the most articulate academicians at leading universities. They realized that they couldn't continue to fit the things they saw and the facts and figures they heard to the picture of America they had brought with them. They even came to admit that American economic growth in recent years was not, as they had always believed, solely the result of our huge national defense effort, and they relaxed their original insistence that our economy would collapse if and when the cold war ended.

Although the Soviets avoided presenting any final, reasonably complete statement of their impressions, their image of the U.S. economy can be patched together from various comments made in university seminars, from questions asked of industry, and from private conversations.

Arzumanyan named the following historical factors as responsible for rapid economic growth in the United States: favorable colonial status of U.S. and early independence; early abolition of slavery; free government land grants for settling the country; freedom from feudalism in agriculture; a general labor shortage and high worker mobility; the stimulus of immigration and foreign capital; the large size of the U.S. market; high productivity and international trade advantages; early emphasis on developing heavy industry; and a favorable situation in recent war periods.

The Soviets emphasized that the United States entered both world wars comparatively late and did not suffer as did most of Europe. Before our entry in these conflicts, military

production had given great impetus to our economic growth. As Arzumanyan commented, "The man who makes firecrackers and shoots them off will go broke. The man who produces and sells them to others will prosper."

The current economic strength of the United States, in the Soviet view, is due to five major factors: the nation has a large productive capacity (probably too large), an outstanding supply of skilled people, a high rate of population growth, excellent natural resources, and a fortuitous combination of agriculture and industry. But, they explained in Marxist jargon, "the dialectics indicate that strong points bring forth weaknesses."

The main economic problem of the United States, according to the Soviets, is an inadequate demand for American production, that is, "the problem is that the market limits production." And the solution is not to increase military expenditures because defense spending has been a main cause of inflation and does not permanently expand levels of economic activity. Instead, the U.S. should broaden its markets through augmenting the income of workers, through assisting the economic expansion of the underdeveloped countries, and — most important — through expanding its trade with the USSR.

The principal Soviet themes throughout the tour were that peaceful coexistence is needed, that Soviet economic growth is not a threat to the United States, and that peaceful economic competition between the U.S. and the USSR will benefit both countries and the rest of the world. On many occasions and in a nonaggressive way, the Soviets did affirm their belief that communism is the next natural stage after capitalism and that communism would ultimately triumph in the current competition between the two systems.

In more specific ways, the Soviets revealed

their impressions of many features of the U.S. economy. They were not convinced that the consumer plays the dominant role in the American economy. "When General Motors produces, they take the consumer into account but the principal objective is profit," argued the head of the delegation.

The Soviets commented unfavorably on the existence and cost of excess capacity in industry. They asked many companies if the bankers who provided financing also controlled the company operations; almost always, the answers contradicted the Soviet image of a small number of Wall Street bankers controlling the U.S. economy. At one point, Arzumanyan exclaimed in exasperation, "We get the impression that everybody is trying to prove to us that the bankers have *no* control."

A conviction that widespread economic waste exists and that monopoly control has not been decreasing in the U.S. was revealed by the Soviets' questions. "We believe that the anti-trust laws cannot be effective. The program works against a natural process," they told the Assistant Attorney General in charge of the Antitrust Division and then asked rhetorically, "Don't you think your job is like that of Don Quixote fighting the windmill?"

On several occasions, Arzumanyan observed, "I don't think you have solved the unemployment problem." He related this problem to the market stagnation that, according to Marxian theory, is characteristic of capitalist economies. But the traditional Marxian view that severe economic and financial crises are inherent in the capitalistic system seems to have been slightly modified. *Severe* crises are no longer considered inevitable; but the visitors seemed uncomfortable in their current position and uncertain as to the degree of severity they should expect for future crises.

At the same time, they steadfastly defended the quality and accuracy of their evaluations



of the capitalistic economy. When a professor charged that Soviet economists are twenty to thirty years behind in their thinking about the U.S. economy, Arzumanyan heatedly responded, "We predicted the U.S. depression of the thirties. We predicted in 1957 that there would be a recession in 1958. Who has the best appraisal of the automatic stabilizers in your economy?"

The Soviets were undoubtedly impressed with the level of workers' welfare in this country, but they were reluctant to accept the evidence. After a full day of touring private housing projects, the leader of the Soviet delegation complimented the Americans: "The housing you have developed is very nice. We are impressed." He then added, "But the price is too high. Housing is much less expensive in the Soviet Union." The businessman, however, had the last word. "I don't know how you measure 'too high,'" he said. "If workers can buy our houses and also afford to have an automobile, a television set, electrical appliances, furniture, and also have money for personal savings, how can you say the price is too high?" At a Detroit automobile company they saw IBM cards and IBM tabulating sheets that recorded the hourly wages of workers. A company official's offer to give them copies of IBM cards selected at random to take home was eagerly accepted.

Often, the Soviet economists revealed a strong conviction that government in the U.S. represented and acted on behalf of "big agriculture" and the large business interests. One evening while watching Secretary of Labor James C. Mitchell discuss on TV the then current steel strike, Arzumanyan observed:

"We Marxists admit that the State represents one of the classes. You people say that the State is impartial. Take the steel strike. The government does nothing to reduce profits but it forces the workers to return."

### *The University Visits*

The university visits were expected to be the high points of the thirty-day tour in which stimulating and provocative discussions at the "scientific" level would increase mutual understanding and rapport. The meetings ended, however, with the American academicians complaining about the closed minds of the Soviets and their rigid adherence to the Marxist party line. The Soviets in turn left muttering that the American university economists were unrealistic about the political aspects of many economic issues, uninformed on the professional works of leading Soviet economists, and more strongly attached to outdated philosophical arguments than to facts. With limited time, broad topics to discuss, radically different backgrounds, and numerous difficulties of language and concepts, the seminars were destined to be preliminary rather than conclusive professional exchanges.

The American experts on the Soviet economy, a few of whom were present at each meeting, were especially frustrated at being unable to question the visitors on the Soviet system. In keeping with the exchange agreement, the Soviets did not want to use their limited time in the United States answering questions on the Soviet economy. "The Soviet economy," they said, "is the subject for the exchange visit by the U.S. economists."

On many occasions, the Soviets expressed a strongly critical attitude toward the American experts on the Soviet economy. "It is unfortunate," they argued, "that the United States is so dependent for its information on the Soviet economy upon 'displaced persons' who occupy their present positions more because of their language skill than their eminence as economists." (The fact that the majority of the U.S. experts on the Soviet economy are native-born Americans was passed over.)

Coupled with this criticism was a deep disappointment that the leading academic economists in the United States were not more

familiar with the professional works of leading Soviet economists. "The study of Soviet economics," they said, "is too important to be left exclusively to a small group of specialists." (Even Soviet scholars like to be widely read and quoted.)

Major differences in technical definitions unfortunately did not become apparent to either group until late in the seminar series. Increased contact with the Soviets in other fields has revealed that common words like "democracy" and "peace" have different Soviet and American meanings. But most American economists were not aware that economic terms like "inflation," "monopoly," and "long-term credits" were also subject to different semantic interpretation.

In urging the United States to expand its trade with the USSR, Khrushchev has asked for "long-term credits," and a part of the Harvard seminar discussion was on the Soviet credit request. "Why do you need long-term credit?" the Soviets were asked. "Why don't you use your gold to pay for the goods you want to buy in the U.S.?"

"What we do with our gold is our business," was the tart reply. "And if you grant long-term credits to England and others why shouldn't we be eligible also?"

The debate got nowhere. But at a luncheon the next day, by luck or by inspiration, one of the Harvard professors asked Professor Arzumanyan, "When you refer to long-term credits, what time period are you talking about?" Arzumanyan replied, "Naturally, we mean about a five-year period." It then became apparent that both groups, though using the same words, had been talking about different time periods. To an American economist, five-year credits would be "intermediate" and fifteen- to twenty-year credits would be "long-term." Furthermore, the U.S. attitude toward a request for five-year credits might be quite different from the attitude toward "long-term" credits.

The Soviets' meaning of "monopoly" was discovered accidentally when, in one conver-

sation, "large industry" was translated into Russian as "monopoly." The next Sunday, however, *The New York Times Magazine* had a lead article by A. A. Berle, Jr., on the topic—pointing out the turn-of-the-century terminology so long used by Russians—with "monopoly" as the prime example. Undoubtedly, many other cases of similar words with different meanings went unnoticed. Our university professors, like most other Americans, were so anxious to discuss issues with the Soviets that it was hard to interrupt the debates to clarify semantic differences.

#### EVALUATION

Was the visit a failure because Americans did not succeed in "selling" their economic system? The answer depends, of course, on what we are trying to do in our program of cultural exchanges, on what we as hosts expect to gain from the exchange visits, and on what lessons we can learn from each experience. These issues are not only for the tour directors who handle the mechanics of the visits but even more for the thousands of American citizen "teachers" who will be meeting Soviet visitors.

If we expected to reverse in one month the Soviets' dogmatic belief in the superiority of the socialist system under which they had been living since 1917 and of which, from their own point of view, they had every reason to be proud, then the entire tour was wasted. Yet, many Americans seemed to expect such an unrealistic result. On several occasions, because of the apparent disappointment in finding that the Soviets are really Marxists and not sold on the superiority of the capitalistic free enterprise system, Arzumanyan felt compelled to lecture his American hosts along the following lines:

"The differences in ideology let themselves be known and they must let themselves be known. You should not expect us to change our philosophy and we do not expect your group when they come to the Soviet Union

to change their basic position. We must recognize each other's basic position and our differences, and go on from there to find fields of common interest and possibilities for cooperation."

But if our purpose was to show the Russians briefly, dramatically, and with scholarly intent, how our system works from day to day in all its complexities, then the tour was very worth while. They came, they saw, and they *were* impressed. They came here well-informed on many of the unfavorable features of our American system and they frequently accented the negative. But they were far too intelligent and too deeply professional not to have absorbed a great deal of worth-while information about our private-cum-public system—from profit-making to debt management and with all the economic "isms" and Madison Avenue symbols in between. Some features they accepted as workable, even in their own system. Others they rejected as untenable even for us if we want to make our own system better.

#### *The Challenge to Business Leaders*

The industry visits were planned to illustrate the sources-of-economic-growth theme, but, inevitably, the full range of issues concerning the United States economy was raised with business leaders. This experience touched upon some crucial problems in explaining the U.S. system. American businessmen have had little practice in explaining their economic system to groups other than willing believers, and they experienced more frustration than success in presenting the currently popular "private enterprise image" of the American economic system to the Soviets.

With great foresight, Professor Carter Goodrich of Columbia warned the Soviets they might hear that the principal cause of American wealth is the strictness with which the principles of *laissez faire* are followed. "My emphasis is somewhat different," he said.

"I am inclined to stress the adaptability and flexibility of the American society and economy, and to note that this has included a pragmatic willingness to make extensive use of the instruments of government—for different purposes in different periods—while at the same time leaving wide scope for the economic energies of individuals and private organizations."

In Wall Street, the Soviets were told that the U.S. has become a "people's capitalism" and that the ownership and control of industry has broadened greatly in recent decades. But the Soviets were unwilling to accept these contentions without factual support. When told that the number of Americans owning common stocks had jumped to 12½ million—a gain of almost 100 per cent in seven years—the Soviets responded with a searching question: "Do the statistics take into account the number of shares held by each stockowner? And how do they prove that the *control* of industry has become more dispersed?" Statistics on a few large companies with widely dispersed stock ownership were rejected by the Soviets as isolated and unscientific examples. And the meetings with government officials and university scholars did not produce any more persuasive factual material on the subject.

Sometimes the businessman weakened his case by trying to defend too much—as in the discussions on the economic waste in annual model changes with the auto industry, on the virtues of advertising with Madison Avenue executives, and on the influence of bankers on government policy. When a member of the banking fraternity told the Soviets that bankers could seldom agree among themselves, Arzumanyan quipped, "Sometimes they agree, sometimes they disagree, and sometimes they merge."

Sometimes there was a tendency to take too narrow a perspective, as in the description by one company of its excellent educational program extending from apprenticeship train-

ing to top level management courses. When the Soviets asked whether other companies had similar programs, the business executive proudly replied, "No, there are no other programs like that of our company." What the executive meant was that he did not recognize the programs of other companies as being of equal merit. This erroneous impression had to be corrected by explaining to the Soviets that although the company they were visiting was outstanding, this kind of program was characteristic of American industry.

The businessmen who were most effective in the discussions with the Soviets were those who recognized the Soviet accomplishments and admitted frankly that Americans themselves are critical of many features of our changing economic system and are searching for better solutions. A leading housing developer used this approach successfully to establish rapport and to challenge some important preconceptions.

Probably the most important question raised by the industry visits concerns the extent to which the many widely accepted and freely dispensed American "private enterprise images" conform to reality. The question does not imply that there is deliberate deceit; rather it asks whether business leaders (and many others) have a historically accurate understanding of our economic system. The "image versus reality" issue arises on many fronts, including the standard descriptions by businessmen of the negative rather than the affirmative view of government's role in economic growth, the dispersed control of industrial corporations, and the dominant influence of the consumer.

The Soviets challenged the oft-repeated statement that America has a consumer-oriented economy. "How long does it take for the consumer to exercise his power?" they inquired in discussions of the small car with auto company officials. "How effective can the consumer be," they asked the advertising industry, "if advertising presents only the favorable features of products?"

"The principal objective of the free enterprise system is profit and not satisfaction of the consumer," explained Arzumanyan to a leading businessman. "When you say that production is dominated by the consumer that is what we mean by communism, where production is according to consumer needs." (He neglected to add, however, that communism is an ideal yet to evolve from the present socialist system of the USSR.)

The industry presentations were excellent descriptions of their own operations, but they rarely provided a complete and balanced picture of the government's positive contribution



to economic development. The accomplishments of private enterprise in building our phenomenal automobile industry were brilliantly depicted; yet the crucial role of massive government investment in highways received only passing attention. The picture of private enterprise constructing millions of houses was frequently presented, but business spokesmen failed to explain the dominant contribution of government home financing programs.

"Automatic stabilizers"—social security, unemployment insurance, and securities regulation—were often referred to with pride as protection against severe economic crises, but the fact that most business groups except the CED had bitterly opposed government efforts to establish these programs went unmentioned. The dynamic influence of private industry's expanding research programs was repeatedly emphasized; the fact that government has stimulated and is paying for more

than half of our national research and development effort was overlooked.

To be sure, the Soviets play their own game with appealing images that are not consistent with the less pleasing realities. But we must still face the question of whether we fully understand our own system and whether the image we are trying to project in the world competition of economic ideas actually conforms to the American realities. "The pragmatic willingness to make extensive use of government for economic development and economic stability," referred to by Professor Goodrich, may be not only more accurate than the almost exclusive emphasis on private enterprise but also have a greater appeal to people in the uncommitted areas of the world.

If so, a recognition of our shortcomings in understanding and in trying to explain our own American system may be one of the most valuable lessons of the Marxists' visit.

We should not, of course, expect unanimous agreement from Americans as to the nature of our economic system and its values. Nor should we expect to persuade the dedicated Soviets that our system is superior. But we should have more accurate and more persuasive answers to the questions and doubts raised by our Soviet visitors. The same questions and doubts are being raised by many other important visitors who are not committed to the communist system and whom we are anxious to influence.

AND . . . conversation with men is of very great use and travel into foreign countries: not to bring back (as most of our young monsieurs do) an account only of how many paces Santa Rotunda is in circuit; or of the richness of Signora Livia's petticoats; . . . but to be able chiefly to give an account of the humors, manners, customs, and laws of those nations where he has been, and that we may whet and sharpen our wits by rubbing them against those of others.

*—Michel de Montaigne*

ESSAYS

LINCOLN ATKISS AND WILLIAM M. READ

## INCREASE Your Management Coaching Power

WHEN COACHING moved from the world of sports to the world of business, something happened to it. When it took off the sweatshirt and put on the necktie, coaching lost some of its vigor and power. Myles Mace, who first applied the term to management development in his now classic study, *The Growth and Development of Executives*, did not describe coaching as an "everything to everybody" idea; he described it as a vigorous dynamic approach to management.<sup>1</sup> His research indicated that effective coaching is based on an ideal superior-subordinate relationship—a relationship that creates an atmosphere conducive to improvement and to development. He also stated that coaching requires a planned approach and a deliberate exercise of skills so that subordinates are motivated to learn and helped to do so most effectively from on-the-job experience.

Unfortunately, however, coaching has tended to become the new word to use, the new "right thing" to be doing in management

circles. No longer is it the game-centered coaching of the sports world, nor the job-oriented, goal-centered coaching of Mace; instead, we seem to have a weak dilution of both approaches that lends itself to a variety of definitions. "To tell" has become "to coach"; "to counsel" has become "to coach"; "to explain" has become "to coach." In short, coaching has become whatever the user of the term wants it to mean.

We believe the power of coaching in improving a man's present performance and in preparing men for future advancement has too much potential to be diluted. We would like to attempt to clarify coaching in relation to the industrial scene and so restore the vigor it appears to have lost. In our opinion, coaching is much more than a method or a technique. Coaching is a way of managing, a special relationship with people, a body of skills. Once understood and practiced, it is a power for the improvement of productivity and profits; it is an answer to management's

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<sup>1</sup>Myles Mace, *The Growth and Development of Executives* (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1950).

question, "How can we best develop managers for the future?"

Is coaching important? An analysis of the appraisals made by more than eight hundred management people in our company clearly indicates the highly individual and often personal nature of the need for improvement. The development problems of the management job range from the delegation of responsibility, the organization of work, and the setting of work standards to the personal difficulties of employees in selling their ideas or getting on with associates, and the approach to take in negotiating with subordinates.

Courses, seminars, and advanced management programs can prove helpful in clarifying principles or encouraging insight, but because development needs must be met in terms of the individual and his situation, the bulk of development must take place on the job. If it is to take place most efficiently, there must be a coach to help the individual relate general principles to his specific problems. In our opinion, at least ninety-five per cent of the needs that exist for improvement in managerial performance, either to make men more effective where they are or to prepare them for advancement, can best be approached through coaching. All development activities could be made more effective by improved day-to-day coaching.

Can coaching be learned? We believe it can. In our company, more than twelve hundred management people have participated in training in coaching. This training has been centered on experience and has required a high degree of personal involvement. Evaluation of this training has shown considerably improved understanding of the coaching role. More important, follow-up interviews have indicated that use of the kind of coaching taught in the training program has increased and is achieving results.

Although the printed word is a poor substitute for experience, we believe the reader who questions the ideas that follow, attempts to understand them within the framework of his own experience, and applies them to actual problems can achieve growth as a coach.

#### THE CONCEPT OF COACHING

Before a manager can be a coach, as we define coaching, he must understand and act on two fundamental beliefs. The first is that a manager is as accountable for the effective performance of the people that work under him as he is for money and production. The second is that most people can and will improve their performance provided that they can see the need for improvement and can expect to be satisfied with the change. Without motivation, there can be no learning.

This concept of management recognizes that development takes place within individuals and that the coach should help in developing an awareness of the need for improvement, provide opportunities for learning to take place, and help the individual to find satisfaction in the results of his efforts to change. The essence of this concept is not, "Management is the development of people," but rather, "Management is helping people to develop."

#### *The Coaching Relationship*

If this concept of coaching is accepted, the manager who would be effective as a coach must establish the right relationship with his people. This means that, first, the goals on which the relationship is centered must be mutually accepted, and, second, a climate of confidence must be established.

In baseball, they say, "You can't hit it if you can't see it." This applies equally well to the development of people. Unless a man clearly understands the standard of performance, and accepts it as being worth while, coaching cannot take place. All managers have concepts of the results they expect. These concepts are the standards of performance as the managers see them; they cannot always be precise in the sense that production standards or sales quotas can be precise. Nevertheless, the manager's judgment determines what is to be considered satisfactory performance. The problem in relationships is for the manager and the man to have a mutual understanding of the standard. In the ideal coaching relation-

ship, standards are not imposed on the man by the manager; they are developed through discussion so that both identify themselves with the goals.

Douglas McGregor of M.I.T., among others, has expressed concern that supervisors set arbitrary objectives and standards and then inform their subordinates of them only when the subordinates fail to measure up to these standards.<sup>2</sup> Under these circumstances, the supervisor's discussion with the employee is seldom constructive. It usually leaves the subordinate feeling resentful and frustrated and the superior feeling irritated and confused. When the boss uses this approach he acts as judge, jury, and prosecuting attorney, and McGregor condemns it as "an infringement on the integrity of the personality." McGregor believes far more can be accomplished by reversing the procedure: that is to say, in a discussion with his superior, the subordinate sets his objectives, reviews his success or failure in achieving them, and through analysis, identifies self-improvement needs. When well handled by both people, this is an excellent approach to the problem, and we agree with McGregor in principle. It has been our experience, however, that in many situations more leadership must be exercised by the superior in setting and clarifying standards. The key point here for the coach is that mere compliance with a standard is not development. It may achieve short-term results, but it cannot be relied on for the long pull.

The second factor in the coaching relationship, the climate of confidence, can be said to exist when a subordinate has respect for his boss's integrity and capability as a leader and when the boss has respect for the man's integrity and confidence in his capacity to do the job. This does not mean that the two individuals need be friends, or even that they need like each other. We like people for social reasons; we can respect people, however, for their honesty, their courage, and their ability. A

supervisor who would coach his people must first have earned their respect. In turn, he must demonstrate by his actions that he respects those that he would coach and has confidence in their capacity to perform.

Mace, who should be credited with the phrase "climate of confidence," points out that for a man to be receptive to coaching, he must feel he is approved of as an individual, that his strengths are recognized, and that he is an important person doing an important job. This does not mean that everything he does is approved. On the contrary, the supervisor must indicate actions of which he disapproves if coaching is to take place. But in indicating these actions that need correction, the supervisor must create the feeling that he has confidence in the man's ability. Mace quotes one executive as saying, "Your administrative success will be in direct proportion to your subordinate's belief of your belief in him."<sup>3</sup>

#### PRINCIPLES OF LEARNING

Assuming a manager is skillful in helping his people identify mutual goals and works with them in a climate of confidence, if he is to do an effective coaching job, he must have an understanding of how people learn and an ability to use the most effective techniques of coaching. Three principles of learning appear important.

*Learning is acquired best through guided personal struggle.* The words "personal struggle" do not conjure up a pleasant picture; they are not intended to. Real learning can be painful. It often requires great effort. This is particularly true of the adult learner who frequently must unlearn old patterns of thought and action before he can master new ones. Equally important is the fact that in business, learning must be active learning. To know is not enough; to be able to do is the valid test in business.

We learn to do only by the experience of doing. However, in order to learn, we must

<sup>2</sup>Douglas McGregor, "An Uneasy Look at Performance Appraisal," *Harvard Business Review*, XXXV (May-June, 1957), 89-94.

<sup>3</sup>*The Growth and Development of Executives*, p. 131.

understand the meaning of our experiences. We have observed men with a superior knowledge of the theories and principles of management, gleaned from lectures, discussions, and personal reading, founder in a management job because they had never before put these theories and principles into practice. The difference between merely knowing the principle and being able to make the principle work can, in our opinion, be learned only from personal experience.

Because we learn to do from our own experiences, it is understandable that a highly motivated individual can do a superb job under an ineffective supervisor. Such an individual has the capacity to examine and analyze his experiences so that they have real meaning for him and lead to the "right" administrative responses for the organization. But the man who does not examine his experiences cannot grow under an ineffective superior. And the man who examines his experiences but comes to the "wrong" conclusions learns the "wrong" things.

Thus, struggle guided by an intelligent coach is more likely to lead to constructive learning. The coach's role is that of encouraging struggle, examination of experiences, and recognition of problems, and steering the struggle along the most productive course. He accomplishes this in many ways—by giving new and challenging assignments, by delegating, by rotation, and by having the man substitute for him for short periods. All of these approaches spur the man to analyze his experiences in a purposeful manner. Ben Fairless said, "When a man comes to me for instructions, I generally counter by asking him questions. First thing I know, he has told me how to solve the problem." This is an accurate description of a coach denying himself the tempting but unproductive pleasure of playing the expert. For the man being coached, this is learning by guided struggle.

*Learning must be geared to the individual.* Most people agree that each individual is unique. They then proceed to treat all individuals as if they are, or should be, identical.

The effective coach recognizes that Jim's needs are different from John's, and he recognizes that each must be coached in a different way.

Unless he guards himself against it, the coach has a strong inclination to make people over in his own image. If it is his nature to be openly enthusiastic when selling an idea, he may try to get his subordinate to show the same fervor. If, in making decisions, he moves slowly and requires excessively detailed reports, he may insist on his subordinate's doing the same. In extreme cases, this problem may extend to such matters as dress, recreational activities, even haircuts.

An understanding of individual differences requires the coach to recognize that each man must achieve results within the framework of his personality. The changes in behavior that the coach works with the man to bring about must fit the man's nature and personal needs, and not be superimposed from someone else's nature or needs.

*Learning requires purposeful repetition.* Coaching can seldom if ever be a "once-and-done" proposition. Because of native intelligence, interest, dexterity, the quality of the instruction, and so on, there are wide variations in the speed with which people learn. One thing the coach often ignores is that learning is habit formation, and habits are not changed by inoculation but by struggle and the discovery of satisfaction. Take the example of Bill who does not delegate because he finds greater satisfaction in doing the job himself. He will change only after he has struggled, under the guidance of his coach, to the point where he finds satisfaction in delegating that adequately replaces the satisfaction he formerly found in doing the job himself.

Under certain conditions, where motivation is strong, the satisfactions of meeting the standard agreed on become apparent very quickly, and coaching is a short-term job. In many other situations, coaching must be continued over an extended period (and may never be successful) because the subordinate cannot find satisfaction in the change asked of him.

### TECHNIQUES OF COACHING

The skills of coaching are many and varied. Four, however, form the basic tool kit for the coach. These are: skill in observing, skill in questioning, skill in listening, and skill in demonstrating.

*Skill in Observing.* Anyone who has had experience with a management appraisal or rating program knows that supervisors often do not adequately observe the performance of their subordinates. Consequently, performances tend to be judged solely on results, with little or no consideration given to how the results were obtained. Such judgments are not only misleading, but are also worthless to the coach. It must be admitted that it may not be easy for a coach to observe how a particular job is done; often he must work backward to find out what produced the result he sees. The important thing is that a real effort be made by the coach to observe performance when he can—and when he cannot, to use questions to conduct a review of the situation that will give him clues to behavior. Take the example of Bill Jones. He has the job of selling a new idea to management, and for some reason he has only partial success. His supervisor-coach, if he is to help Bill, must review everything that happened as Bill saw it. He might want to secure a sampling of reactions from those to whom Bill tried to sell the idea. This information will help the coach ask the questions and use the approaches that will cause Bill to struggle with the areas in which he needs help.

The temptation is always present for the coach to pick up the ball and run with it. If and when he does (it may be very necessary in a critical situation), he must remember he is no longer coaching; he is playing the game. His ability to *observe* accurately and objectively was left on the bench when he joined the fray.

*Skill in Questioning.* The ability to ask good questions is necessary to good coaching. Questions are the fuel that stokes the fire of struggle. They are able to probe more deeply than observation and lead to greater mental and emotional insight and understanding.

If a man comes to his supervisor with what

he feels is a solution to a problem and his supervisor says, "It won't work and here's why," the man is not being coached. On the other hand, the supervisor may ask:

"Why do you think this is the best solution?"

"What are the advantages and disadvantages of this solution?"

"What alternatives are there?"

Then, the man would be compelled to struggle with the problem. In doing so, he would reveal to his supervisor how he had approached and analyzed the problem before he came in. Equally important, he would be led to think of things that had not occurred to him. Though he might arrive at the conclusion that his idea would not work, he would have learned in the process.

Good questions cannot be answered *yes* or *no*; they demand elaboration and analysis. The coach uses his questions not as a prosecuting attorney, whose intent is to badger a witness and perhaps to trap him, but considerately, to explore, to probe, to bring light and understanding to the subject. This means that questions touch on important topics and provoke an examination of ideas and relationships. The coach is not concerned with the answer to the question, "What is the fifth clause in the contract?" Instead, he might ask, "The fifth clause in our contract deals with the grievance procedure. What experiences have you had with grievances?" or "What effect does the fact that grievances can be taken to arbitration have on our handling of them at the first level?"

Questions are far more than a device for gauging acquired knowledge; they are a way of teaching when used to help the individual acquire insight and understanding.

*Skill in Listening.* It would seem obvious that if the coach uses questions as a means of promoting mental struggle, he must listen to answers, explanations, and ideas. All too often, however, those who might otherwise do well in the coach's role fail because they lack skill in listening.

Active, purposeful listening must begin early in the relationship when areas for improvement are isolated and standards set. It

must continue to be used effectively in all other relationships between the coach and the man. To the coach, listening is much more than remaining silent until the person speaking stops; it is, through attitude, manner, and response, a means of promoting struggle and reaching understanding. The active listener listens for ideas. He avoids explosive interruptions in the face of disagreement, preferring a question that will cause the speaker to explore the matter further. Carl Rogers, the well-known psychologist, says of the importance of listening in effecting change: "If I can listen to what he tells me, if I can understand how it seems to him, if I can sense the emotional flavor it has for him, then I will be releasing potent forces of change within him."

*Skill in Demonstrating.* The coach who cannot demonstrate or arrange for demonstrations cannot do the full job. Skillfully handled, demonstrations can be a powerful method of gaining understanding. The effective coach does three things in connection with each demonstration. First, he prepares the man to observe the demonstration by discussing with him what is going to be done, why it is going to be done, and how it is going to be done. Second, the coach demonstrates, or has someone else demonstrate, either in a "live" situation or in one specially arranged. Third, he has the man analyze what he saw, and through questioning and listening makes certain the analysis is thorough and that the man's understanding is complete.

Here is how this technique might work. Bill has had trouble getting along with another supervisor whom he must contact frequently. You know this supervisor and have had your troubles with him in the past, but your relationship is sound now and you think you know why. In your opinion, the problem supervisor is a man who likes to sound off. He throws his ideas and opinions around with great conviction. When you first dealt with him, you had many head-on clashes because you did not necessarily agree with him and you told him so. You learned, however, that you could work effectively with him if you listened to him,

avoided direct contradiction but raised questions which caused him to explore his ideas further. You tell Bill of your experiences and arrange for him to accompany you and to observe you when you have business with the supervisor. Afterwards, you and Bill discuss how you handled the situation and what Bill might take from the demonstration. Bill might decide to try the same approach or a modification that suits his personality better, but whatever he does he has had the benefit of learning from a live situation.

The coach recognizes that demonstrations play a larger role in the development of men who are new to an activity but still have value for more experienced people. He recognizes, too, that the purpose of the demonstration is not to teach the man to perform in the exact image of the demonstrator, but to help the man acquire a grasp of principles that he can successfully apply within the framework of his own personality.

IN SUMMARY, we believe that there are three essentials to effective coaching: first, the grasp of a concept of management that recognizes that a manager is accountable for the effective use of people and has a responsibility for helping them to improve; second, the development of manager-man relationships through which mutually understood standards are set and worked towards in a climate of confidence; third, the understanding and use by the manager of key principles of learning and the basic skills of coaching.

The coaching relationship is continuous. The cycle begins with the setting of goals, moves to the promotion of struggle through experience in the direction of the goals, the analysis of the meaning of the experience, the further observation of performance, and finally returns to the setting of new goals. Coaching becomes a way of managing, a way of leading. Its purpose is not to succeed once; rather, it is to help people perfect the knowledge, skills, and attitudes they need to face ever-changing situations in the dynamic and unending game of business where the stakes are high.

# LETTRE À MON FILS

*EDITOR'S NOTE: The dangers inherent in technological advance face many industrialized nations. Jean Hubert's LETTRE À MON FILS is a Frenchman's attempt to bring these dangers to the notice of his son as the latter begins his career.*

*Because certain subtleties are inevitably lost in translation, we are printing the original text for those of our readers who know French. For our other readers, the English version follows on page 50.*

*M. Hubert is chairman of two French manufacturing companies, the Société Nouvelle de Roulements and the Société Française des Coussinets Mince.*

JOUY, JANVIER 1961

TU AS vingt-cinq ans; tu entres dans la vie active. Une bonne trentaine d'années se sont écoulées depuis que j'y pénétrai moi-même—trente ans qui représentent beaucoup plus, car les guerres précipitent le cours des choses. Elles séparent les générations, celle "d'avant" et celle "d'après."

J'évoque sans peine mon entrée dans la vie, sur une ligne de départ bien semblable à la tienne, celle d'un jeune garçon qui a reçu une forte et belle instruction scientifique, aussi largement ouverte que possible sur une culture plus générale encore. Te voici jeune technicien de l'industrie; tu travailles et tu es heureux, comme je l'étais à ton âge.

Tu connais beaucoup de choses que j'ignorais; tu me parais bien mieux préparé que je ne l'étais aux obligations de l'époque. Tu admets, sans trop meurtrir ton individualisme, que le

travail collectif soit indispensable aux progrès de la recherche, aux succès de la technique, à l'efficacité de l'organisation. Face à des problèmes de plus en plus complexes, tu es de mieux en mieux armé.

Tu as le sens du travail en équipe. L'étude dont tu es chargé n'aura sa pleine valeur que si tu la relies patiemment à d'autres études, si elle ne tient pas compte d'autres données que d'autres techniciens peuvent et doivent t'apporter.

Tu "planifies," tu "ordonnances," tu "contrôles," mieux encore, tu "prévois." Tu as compris que plus la route est encombrée d'obstacles, mieux il faut la reconnaître et, pour prévoir, tu ne recules devant aucune méthode d'investigation, si complexe qu'elle soit.

Tout cela, j'en suis heureux pour toi. J'envie même rétrospectivement tout cet équipement technique et psychologique que tu possèdes et qui m'a si souvent fait défaut. Que de fois

j'ai trébuché sur une route où je m'engageais trop isolé ou trop confiant dans mes propres forces, ignorant ou feignant d'ignorer mon manque de préparation; que de fois, devant des écueils imprévus, ai-je eu recours à mon "pifomètre."

Les dangers d'erreur sont devenus tels qu'une pareille attitude, même si elle était acceptable à mon époque, serait à présent sans excuse.

Tout va donc pour le mieux. Et pourtant j'aimerais te dire quelque chose et j'aimerais bien que tu me comprennes.

APPLAUDISSANT tous les jours à la sécurité de tes méthodes de travail, j'y vois quelques ombres. Tu ne peux les éviter, car elles sont la rançon de tes suppléments de lumière; veux-tu, au moins, en prendre conscience?

Ton risque, mon fils, c'est d'oublier qu'avant toute action, il y a la décision; c'est de dépouiller cette décision de l'engagement humain qu'elle implique; c'est, petit à petit, de méconnaître la nécessité même de la décision. Que cela est vite dit, que cela est apparemment ridicule sous cette forme brutale! Mais si, par hasard, c'était vrai, que ce serait grave. Or ce risque je le vois, je le sens pour toi, je l'ai déjà vu sur ta route.

Tu te donnes à des tâches d'étude et de préparation, tu organises, tu prévois; tout cela te passionne et nourrit ta fierté. Attention: tant que tu prépares, tant que tu organises, tant que tu prévois, tu n'as rien fait, tu n'as pas agi, car tu n'as encore rien décidé et comme tu n'as rien décidé, rien ne sera exécuté.

Bien sûr, ta jeunesse ne te permet pas d'accéder immédiatement aux postes de commandement; bien sûr, tous les hommes n'ont pas le goût, ni les qualités de la décision; bien sûr, ta génération saura, comme les autres, révéler les hommes "décidés à décider." Encore faut-il que toute une génération ne se laisse pas modeler par certaines dominantes; encore faut-il qu'elle ne prenne pas la planification, l'organisation, la prévision, pour des

fins en soi; encore faut-il que des tâches si complexes et si attachantes ne s'arrêtent pas à la satisfaction de les avoir bien remplies, satisfaction qui en marquerait le terme: ce serait le drame du nageur qui coule au moment où il va atteindre la berge.

Je t'ai vu, mon fils, étudier des projets, je t'ai vu les fouiller, je t'ai vu envisager toutes les hypothèses techniques possibles, les analyser, en peser les conséquences; tout cela était fait avec clarté, bien ordonné. Et après? Après, il faut décider.

J'ai peur, vois-tu, que poussant jusqu'à ses limites extrêmes une préparation qui par définition, n'a pas de limites—and c'est là qu'est le danger—ce souci d'affiner toujours mieux laisse passer l'heure de la décision et te fasse



même oublier qu'une décision est à prendre. Or, c'est cette décision qui marque la crête entre la montée de l'étude et la descente vers l'exécution. Elle est bien comparable à une arête; elle en a la netteté et le tranchant. Elle n'a rien à voir avec ce qui la précède et rien à voir avec ce qui la suit.

Je sais bien—and tu me l'as clairement exposé quand nous en avons encore tout récemment discuté—plus le progrès avance, plus nos hypothèses sont limitées, plus nos chances d'erreurs se réduisent, plus le choix de la décision se restreint et tu m'as lancé le grand mot: "la décision devient automatique."

Si telle est la situation, tu as raison: la décision n'est plus une crête à franchir vers

l'inconnu de l'autre versant, elle est un chaînon supplémentaire dans un processus intellectuel infaillible et l'on peut dire qu'ainsi mené et orienté sans erreur, ton esprit s'achemine vers une décision automatique. On peut même dire qu'il n'y a plus de décision, à l'instant où l'homme disparaît et où le robot fonctionne.

Un avion entre dans le champ du radar de veille. Le radar de veille le passe au radar de tir. Le radar de tir alimente l'appareil calculateur de pointage. L'appareil calculateur déclenche le tir. L'officier de tir a disparu. C'est le pilote de l'avion qui commande le feu qui l'abattra, mais il n'y a plus de pilote, c'est une fusée.

Je reconnais avec toi que tout t'incite à réduire la marge de liberté, que tu t'effaces et que tu t'inclines, l'esprit tranquille et satisfait d'être aussi magnifiquement guidé.

POUR accélérer cette suppression progressive de l'engagement personnel, je vois cet engagement se diluer lui-même dans un élargissement de cet "état de groupe" vers lequel nous évoluons, que nous considérons comme nécessaire et que, suivant les jours, nous magnifions sous certains de ses aspects comme l'esprit d'équipe, pour en déplorer, immédiatement après, les abus redoutables.

Toutes tes habitudes t'inclinent à insérer ta pensée, ton travail, ta volonté, dans une pensée collective, dans un travail collectif, dans une volonté collective. Or, pour décider, tu devras sortir de la collectivité, car il n'y a de décision que personnelle: c'est un acte individuel, d'ordre mystérieux, à la fois intellectuel et moral, acte qui n'a de sens que s'il est libre et, pour être libre, il faut être seul. Prise dans la solitude, la décision engage la responsabilité pour le meilleur pour le pire. C'est un acte d'homme.

Dans le flot des idées qui emportent le monde et qui se déversent sur nous, co-préparation, co-organisation, co-prévision, co-opération en tout genre, et qui trouvent leur justification dans ces travaux d'équipe dont tu

as pris les réflexes, tu verras apparaître la co-gestion et la co-décision. Ce sont là des jeux de mots dont on nourrit les foules, mais la décision reste solitaire et il faut qu'elle le soit.

La vie t'apprendra ce que veut dire le mot "responsabilité" et tu verras que, chaque fois qu'on a confié une responsabilité à un groupe d'hommes, les décisions qui sont prises par ce groupe n'engagent jamais sa responsabilité, encore moins quand ces décisions ne sont que des avis. Tu ne verras jamais un homme se déclarer engagé par les décisions ou les avis du groupe dont il fait partie; il aura toujours une porte de sortie. Cela signifie qu'il n'y a pas de co-responsabilité; il ne peut donc pas y avoir de co-décision. Un groupe ne se trompe jamais; on distingue un homme d'un groupe à ce que l'homme peut reconnaître s'être trompé.

Cet exercice d'un privilège ou cet accomplissement d'un devoir—qui ne font qu'un—porte sa sanction et son témoignage; si l'homme décide seul, c'est qu'il accepte d'être puni, s'il se trompe. Au faîte des responsabilités, cela veut dire qu'il accepte d'être pendu, et pas au figuré.

Tu n'es pas au faîte des responsabilités, aussi la corde n'est-elle pas encore pour toi, mais tu sentiras très vite que tu es seul à décider; c'est ainsi qu'il faut que cela soit et ceci est vrai, à tous les échelons de la hiérarchie, si, comme je le souhaite, tu as des chefs qui savent te déléguer telle ou telle part de leurs responsabilités. Comprends-moi bien, je n'écarte en rien la délibération en commun, la rencontre des idées, la discussion des points de vue, je te dis seulement que la décision est un fait solitaire.

Lorsque les démocraties recherchent l'expression de la volonté collective, elles garantissent au citoyen la liberté du choix. Pour prendre ses responsabilités, l'électeur se retire dans un isoloir, lieu où il sera seul pour la décision la plus importante de sa vie de citoyen.

Te souviens-tu de ton premier plongeon? Tu avais douze ans. Je venais de t'apprendre à nager. Restait une épreuve encore: le plon-

geon. J'en avais fait quelques-uns devant toi—et d'ailleurs plutôt mal que bien—and je te vois encore, tout seul au bout de ces deux planches qui avançaient sur quelques pilotis au dessus de l'eau du lac. J'étais resté sur la rive, silencieux, voulant te laisser opérer "tout seul" and tu étais vraiment seul, les mains posées au-dessus de tes genoux, la tête inclinée vers cette eau superbe et claire où, par quatre mètres de fond, tu pouvais compter les cailloux blancs et bleus, où tu voyais glisser, entre les eaux, quelques petits poissons apeurés et où, surtout, beaucoup plus près de toi, tu apercevais, comme rivés à la surface de l'eau, ta propre silhouette, ton reflet, ton ombre, qui attendait ta décision. Silencieux dialogue où tu pesais le pour et le contre. Un premier plongeon, c'est une grande aventure. Une bonne minute se passa and tout à coup j'ai vu tes doigts de pieds se plier sur le bord du plongeoir, une légère tension courir de tes chevilles à tes cuisses, pendant que tes bras se détendaient en souplesse; tu basculais and ton plongeon fut excellent.

Tu venais de franchir la redoutable arête qui sépare la préparation de l'exécution, tu avais décidé, and tu avais décidé "tout seul."

Que de fois dans ta vie tu arriveras ainsi au bout de la planche: préparation achevée, concentration à faire, décision à arracher à toi-même. Tu auras la chance—que je n'avais pas—d'avoir pour toi une préparation très poussée dans toutes les directions, peut-être même connaîtras-tu scientifiquement la mesure de la marge d'erreur. Erreur faible and erreur connue, je te le souhaite, mais tu ne verras jamais sur ton cadran "erreur nulle."

Que cette réduction continue de tes chances d'erreur ne soit pas telle qu'elle t'incite à la recherche d'une nouvelle réduction. Plus l'affinage est poussé and plus le temps d'affinage s'accroît.

ET CECI sera ma seconde remarque: il faut décider, mais il faut aussi décider à temps.

J'ai l'impression, mon fils, que tes études

et tes travaux laissent trop souvent à l'écart ce "facteur temps" parce que, précisément, ce temps n'est pas un facteur technique de ton étude and qu'à ce titre, toi technicien, tu te refuses à le prendre en considération.

Et pourtant, ce facteur invisible est toujours présent and il commande tout. La vie n'est que mouvement and mouvement relatif. La progression par rapport à tes propres repères, qui jalonne, pour toi-même ou pour ton entreprise, l'évolution technique, a bien moins d'intérêt que ton avancée relative, celle qui se mesure entre toi and les autres. Sur tes repères personnels, tu crois progresser, cependant qu'en réalité tu as reculé parce que le réel, dans la vie, c'est le relatif.

Une décision n'a de valeur que si elle est prise à temps. C'est vrai, tu le sais, dans les batailles, mais la vie aussi est une bataille. Oserai-je te dire que, dans certaines circonstances, je préfère prendre, à l'heure, une décision dont la préparation ne me donne pas toute satisfaction, que prendre, trop tard, une décision parfaitement étudiée?

Veux-tu me permettre de te dire que je t'ai vu récemment écartelé entre deux obligations contradictoires: celle d'engager dès maintenant une décision qui conditionnait des progrès industriels dont tu connaissais toute l'importance, décision dont tu savais que l'heure avait sonné à l'horloge de la concurrence internationale, and ton souci également de ne pas sacrifier pour autant la bonne marche de l'exploitation présente, qui risquait d'être dangereusement bousculée par certains sacrifices qu'il fallait faire dans l'immédiat pour assurer ces exigences de l'avenir. Tu voulais tout concilier, jusqu'à envisager de reculer cet avenir nécessaire. Là où, moi, je n'aurais pas hésité, je t'ai vu troublé and je t'ai vu prêt à prendre la décision contraire à celle que j'aurais prise dans les mêmes circonstances, les yeux fixés sur l'horloge.

La veille d'une bataille, Foch consultait ses généraux and son état-major; il recueillait ainsi une dizaine d'avis and autant de réserves sur

tel ou tel risque de l'action prévue. Ses officiers l'éclairaient parce que c'était leur devoir et Foch d'ajouter que, s'il avait retenu tous ces avis et toutes ces réserves, il n'aurait jamais pris l'initiative d'une bataille, mais il savait que l'heure de l'action avait sonné et qu'il fallait partir.

Tu souris, car Foch, c'est bien loin pour toi: une affreuse statue de bronze sur la place du Trocadéro et un grand nom de plus dans l'histoire de notre pays. Tu penses, et tu me diras, que 1961 n'a avec 1918 qu'un rapport lointain et que Foch n'est pas nécessairement l'homme idéal, le modèle à suivre à l'époque de la guerre atomique et de la guerre révolutionnaire. En es-tu sûr?

Alors, que penses-tu de ce général américain, chef du Strategic Air Command auquel, dit-on, il y a quelques années, les radars de l'armée américaine annonçaient l'arrivée d'esadrilles inconnues qui se hâtaient à une vitesse supersonique? Chef responsable, il avait le pouvoir et peut-être le devoir de donner un ordre immédiat de contre-attaque nucléaire; il ne donna pas cet ordre. L'alerte, on l'a su plus tard, était due à une erreur des appareils de détection.

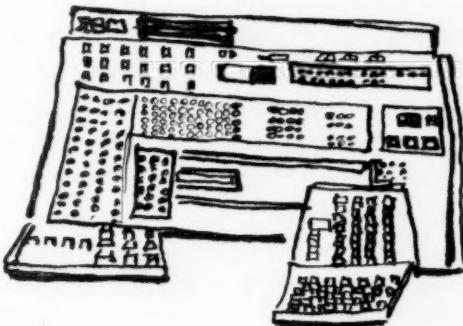
Imagines-tu ce qui a pu se passer pendant ces quelques minutes dans la conscience de cet homme? Délibérer? Pas le temps. Hésiter? C'est choisir. Décision solitaire, décision immédiate: solitude et vitesse, commandées par le progrès lui-même, par ce progrès dont tu attends la libération, tout au moins la sécurité de tes décisions.

Dieu soit loué, sur la chaîne des automatismes, il y avait encore un homme et cet homme a eu précisément la responsabilité de prendre une décision contraire aux ordres que lui donnait l'automatisme: il était au dernier maillon de la chaîne, il a su la briser.

Cet exemple te montre bien le chemin que nous venons de faire en quarante ans et le danger que tu auras à affronter. Le danger, c'est que ce progrès qui aura simplifié, raréfié même tes obligations de décision, qui t'aura progressivement aveuli en t'enlevant l'occa-

sion d'exercer tes réflexes et d'entraîner ta volonté; le danger, dis-je, c'est que ce progrès apparaisse un jour au tournant de ta route, surprenant, brutal, prêt à t'écraser devant la nécessité d'une décision d'autant plus lourde que ce progrès n'aura plus laissé que celle-là sur tes épaules et d'autant plus pressante que s'accroît la vitesse du flot qui nous entraîne.

C'est pour cette minute, où tu devras faire œuvre d'homme, comme toutes les générations qui t'ont précédé, mais dans des conditions plus difficiles que jamais, que je voudrais que tu te prépares à l'avance, que tu t'entraînes et que, pour ces assauts de demain, tu veilles à entretenir "au plein" tes réserves morales.



Voilà mon fils, ce que je voulais te dire. M'as-tu compris? Que peux-tu tirer de mes observations? Je ne sais et je ne suis même pas sûr que tu puisses en tirer quelque chose. Toute médaille a son revers: peux-tu enrichir ton existence de toutes les qualités qui conditionnent le succès devant les problèmes de ton époque, qualités qui m'ont fait défaut et que la vie moderne t'oblige à acquérir, sans renoncer par là même à celles que ma génération cultivait?

Mais tu verras, quand tu seras à mon âge, à ma place, que le seul désir d'un père est de voir son fils mieux réussir que lui, plus fort que lui, n'ayant pas ses défauts, mais tout de même gardant un peu de lui-même et, de préférence, ce qu'il croit être le plus solide. Vaine ambition peut-être, car c'est la vie qui modèle les générations beaucoup plus que le désir des

pères. Je te connais assez cependant pour être sûr qu'à défaut d'autre chose, tu sauras trouver dans cette lettre un témoignage de mon affection.

JEAN HUBERT

## LETTER TO MY SON

JOUY, JANUARY, 1961

You are twenty-five years old and on the threshold of your career. A good thirty years have passed since I began my own—thirty years that mean much more, for wars speed up the flow of events. They separate the generation "before" from the one "after."

My own debut, I recall, was along lines very similar to yours. I, too, was a young boy who received not only a sound and excellent scientific education, but also a liberal exposure to culture in a more general sense. Now here you are, a young technician in industry. You are happy with your work just as I was at your age.

You know many things that I did not; you seem to be much better prepared than I was to meet the obligations of the time. You admit, without jeopardizing your individuality too much, that collective work is indispensable to the advancement of research, to technical success, and to organizational efficiency. In the face of more and more complex problems, you are increasingly well equipped.

You have a sense of teamwork. The study for which you are responsible will not bear fruit unless you patiently link it to other studies, and take into consideration other data that other technicians can and must bring to you.

You plan, regulate, control, and even better, you forecast. You have realized that the

more obstacles there are in your path, the better it has to be explored; and in order to plan in advance, you do not hesitate to use any method of investigation, however complex it may be.

I am happy for you on all these counts. Thinking back, I even wish I had had all this technical and psychological equipment that you have, and that I so often lacked. So many times I set out on a path and stumbled—too independent or too confident in my own powers, not realizing or pretending not to realize my lack of preparation. So many times, in the face of unforeseen obstacles, I had to fall back on a guess.

The dangers of a mistake have become so great that an attitude like mine, even if it was acceptable in my time, would be inexcusable today.

Everything is for the best, then. I would, however, like to tell you something and to have you realize the implications of what I say.

THOUGH I have nothing but praise for the soundness of your methods of work, still I can see some shadows. You cannot avoid them, for they are the price of your increased knowledge. Would you like to try, at least, to become aware of these shadows?

You are in danger, my son, of forgetting that decision precedes action and of stripping the decision of the human element involved in it. Little by little, you even risk failing to recognize the necessity of making a decision. How quickly this can be said, and how ridiculous it sounds when expressed so roughly! But if, by chance, it were true, how grave the situation would be. I see this risk; I feel it for you; I have already seen it in your path.

You devote yourself to tasks of study and preparation, you organize, you look ahead—all this interests you deeply and strengthens your pride. But be careful; as long as you are preparing, organizing, and forecasting, you have not done anything. You have not acted because you have not decided anything yet,

and since you have not decided anything, nothing will be executed.

Of course, the fact that you are still young means that you are not at present in a position to make decisions; to be sure, not every man has the inclination or the ability to make decisions; and, assuredly, your generation will know, like others before it, how to draw out the men who are ready to make decisions. And yet, a whole generation should not let itself be molded by trends dominant at the time. It should not take the planning, organizing, and forecasting for ends in themselves. It is vital that tasks so complex and so attractive should not stop at the satisfaction of having fulfilled them well, because this satisfaction would indicate that they are over and done with. That would be the tragedy of a swimmer who drowns just when he is about to reach the bank.

I have seen you, my son, studying your plans; I have seen you thinking them out; I have seen you considering all the technical possibilities, analyzing them, and weighing their consequences. All this was done methodically and with a clear mind. But then what? You have to make a decision.

You see, I am afraid that by carrying preparation to its limits when by definition it has none (and herein lies the danger), by constantly working for improvements, you let yourself forget the time of decision or even that a decision has to be made. But, this decision is the climax, the sharply defined peak between preparatory study and execution. It is independent of what precedes it and of what follows.

I know—you clearly explained it to me when we discussed this matter again recently—that the more rapid the progress, the more cut and dried hypotheses become. The more our chances of errors are reduced, the more the choice of decision is limited. You quoted me a catch phrase: "the decision becomes 'automatic'."

If this is the situation, then you are right. The decision is no longer like a summit that

one must overcome in order to reach the unknown of the other side. It is instead an additional link in an infallible intellectual process, and it is possible to say that thus conducted and guided without error, your mind does make its way towards an automatic decision. One can even say that there is no more decision-making when the man disappears and the robot functions.

An airplane enters the radar beam. Velocity and position information are transmitted to the weapons system. The information is then supplied to the automatic firing apparatus. This launches the weapon. The operator has been eliminated; it is the pilot of the plane who commands the fire that will bring him down. Now, however, there is no longer a pilot; the plane has become a rocket.

I agree with you that everything induces you to narrow the margin of liberty, to keep yourself out of the picture and surrender, your mind at rest and satisfied, to being so magnificently guided.

TO ACCELERATE this progressive elimination of personal involvement, I see it becoming less and less important through an extension of those group activities toward which we are tending, which we consider necessary, and which we magnify in some aspects, such as team spirit, although immediately afterwards we regret the frightful consequences that may ensue.

All your habits lead you to submerge your thought, your work, your will in collective thought, collective work, and collective will. But, in order to make a decision, you will have to come out from the collectivity because there is no decision that is not personal. It is an individual act of a mysterious order, at one and the same time intellectual and moral, an act that makes no sense unless it is free, and in order for it to be free, it has to be a solitary act. Made in solitude, a decision involves the responsibility for the best and for the worst. It is a man's act.

In the flood of ideas that carry away the

world and wash over us, copreparation, co-organization, coanticipation, and cooperation in all its forms—ideas that find their justification in those collective efforts to which you have become conditioned—you will see co-management and codecision appear. These are the word games with which crowds are sustained; decision stays solitary and it has to be so.

Life will teach you what the word “responsibility” means, and you will see that every time a group of men has been entrusted with responsibility, the decisions taken by this group never involve the group’s responsibility, particularly when these decisions are mere advice. You will never see a man declaring himself involved by the decisions or advice of the group he belongs to. There will always be a way out. This means that there is no coresponsibility; therefore, there cannot be codecision. A group is never mistaken; the difference between a man and a group is that a man can acknowledge that he has been mistaken.

This exercise of a privilege or performance of a duty (it is the same thing) carries its own consequences and its testimony. If the man makes the decision by himself, it means that he agrees to the penalty if he is wrong. At the apex of responsibilities, it means literally that he accepts the death penalty.

Yours is not the supreme responsibility; therefore the death penalty is not for you, but you will feel very quickly that you are alone when you make your decisions. This is the way it should be, and this is true for all the steps of the hierarchy, if, as I wish it, you have bosses who know how to delegate to you this or that part of their responsibilities. Understand me well: I do not discard all group deliberation, exchange of ideas, discussion of viewpoints; I am just telling you that decision is a solitary act.

When democracies seek the expression of collective will, they guarantee the citizen freedom of choice. In order to carry out his

responsibilities, the elector retreats into a polling booth, a place where he will be alone for the most important decision of his life as a citizen.

Do you remember your first dive? You were twelve years old. I had just taught you how to swim. One test was left—the dive. I had dived a few times in front of you (what is more, rather bad dives), and I can still see you all alone at the end of those boards that, supported on piles, extended over the lake. I had stayed, silent, on the bank, for I wanted to let you operate “all by yourself.” And you were really by yourself, your hands above your knees, your head bending towards this superb clear water where, thirteen feet below, you could count the white and blue pebbles, and see some little frightened fish slipping through the water; where, much nearer to you, you could see, as though you were riveted to the surface of the water, your own figure, your reflection, your shadow, waiting for your decision. Silently you weighed the pros and cons of the matter with yourself. The first dive is a big adventure. A good minute passed; then suddenly I saw your toes flex at the edge of the board, a light tension run from your ankles to your thighs, while you extended your arms with a supple movement. You sprang forward, and your dive was excellent.

You had just overcome the formidable peak that separates the preparation from the execution. You had decided, and you had decided all by yourself.

Many times in your life you will come like this to the edge of the board; the preparation will be finished, and you will have to extort from yourself both the concentration to act and the decision. You will have the luck (that I did not have) to be very well-prepared in many different fields. Perhaps, you will even know scientifically how to measure the margin of error. Your error, I hope, will be slight, one that you know about; but you will never see on your dial “no error.” I hope, too, that this continual reduction of your chances of

error will not induce you to search for further reduction. The more the refining process is pushed, the more time it takes.

MY NEXT remark is: You must decide, but also you must decide on time.

I have the impression, my son, that your studies and your work too often leave out the time factor. Because time is not a technical factor in your study, you, as a technician, refuse to take it into consideration. However, this invisible factor is always present and controls everything. Life is nothing but movement, and relative movement. The progress, according to your own points of reference, of the technical development of you yourself and of your company is much less interesting than your relative progress, that which is measured by comparing you to others. From your own viewpoint, you think you are progressing, while in fact you have lost ground because what is real in life is the relative.

A decision is valuable only if it is taken at the right time. This is true, as you know, in battles, but life is also a battle. Do I dare tell you that in certain circumstances I prefer to take a decision at the right time even if the preparation for it does not satisfy me completely, rather than take—too late—a decision for which the preparation is complete and perfect.

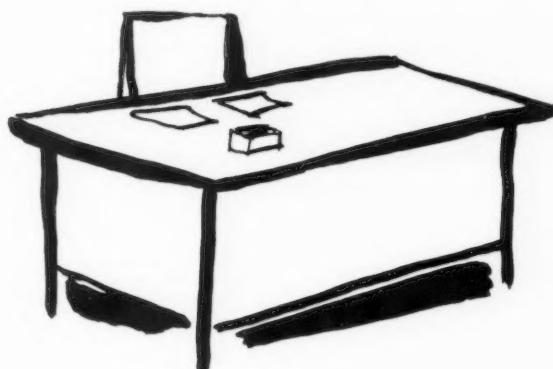
Would you allow me to tell you that recently I saw you torn between two contradictory obligations. On the one hand, you felt

obliged to engage yourself right now in a decision that could affect industrial progress which you knew to be important, a decision for which you realized the time was ripe in international competition. On the other hand, you were equally anxious not to sacrifice for this reason the good progress of the present project, which risked being thrown into dangerous disorder by the sacrifices that must be made now to assure the demands of the future. You wanted to reconcile everything. You even envisaged putting off this necessary future. Where I would not have hesitated, I saw you disturbed and about to take the decision opposite to the one I would have taken under the same circumstances, keeping in mind the time factor.

On the eve of a battle, Foch used to consult his generals and his staff. He used to gather this way about ten pieces of advice and as many qualifications for this or that risk inherent in the plan of action. His officers gave him their advice because it was their duty, but Foch used to add that, if he had kept in mind all this advice and qualification, he would have never taken the initiative of a battle. But he knew when it was time for action and vital that they made a move.

You are smiling because Foch is very far away from you, a horrible bronze statue in the Place de Trocadéro, and one more great name in the history of our country. You are thinking, and you will tell me that 1961 has only a distant connection with 1918, and that Foch is not necessarily the ideal man to be used as a model in the age of atomic and revolutionary wars. Are you sure of that?

What do you think then of this American general, chief of the Strategic Air Command, to whom, it is said, a few years ago the radar equipment of the American army announced the arrival of unknown squadrons hurrying towards him at a supersonic speed? As a responsible chief, he had the power and perhaps the obligation to give an immediate order for nuclear counterattack. He did not give this order. It was discovered later that



the alarm was due to an error in the detectors.

Can you imagine what went on in that man's conscience during those few minutes? To deliberate? No time. To hesitate? That is to choose. Solitary, immediate decision. Solitude and speed—these were commanded by this same progress that you expect to liberate your decisions or at least to make them safe.

Thank God, in the chain of automation there was still a man, and this man had the responsibility of taking a decision contrary to the orders given to him by automation. He was the last link in the chain and he knew how to break it.

This example is a good illustration of the headway we have made in forty years, and of the danger you will have to face. The danger is that this progress will have simplified, even rarefied your obligations of decision-making, will have enfeebled you progressively by taking away from you the opportunity of exercising your reflexes and of training your will. And this progress might appear some day at the turn of your road, surprising, brutal, ready to crush you before the necessity of a decision all the more difficult since progress will have left only this decision in your hands; and the more urgent, too, since the speed of the flood carrying us away is increasing.

It is for this minute that you will have to

behave like a man, as all the generations that preceded you had to. But the circumstances will be more difficult than ever before, and I would like you to be prepared in advance, to train yourself for tomorrow's assaults, and be sure that you keep up your moral reserves.

This, my son, is what I wanted to tell you. Did you understand me? What can you gather from my observations? I don't know, and I am not even sure that you can extract anything from them.

Everything has its bright and dark side. Can you, despite the problems of your time, enrich your life with all the qualities that make for success, qualities that I lacked and that modern life obliges one to acquire, without giving up those that my generation used to cultivate?

You will see, when you are my age and in my place, that a father's only desire is to see his son do better than he did, be stronger, and without his defects but still keeping something of his father, preferably, what his father considers his soundest attributes. A vain ambition maybe, for life models generations much more than paternal wishes. I know you well enough, however, to be sure that you will find in this letter, if nothing else, a testimony of my affection.

JEAN HUBERT

**I**F A man has a talent and cannot use it, he has failed. If he has a talent and uses only half of it, he has partly failed. If he has a talent and learns somehow to use the whole of it, he has gloriously succeeded, and won a satisfaction and triumph few men ever know.

—*Thomas Wolfe*  
THE WEB AND THE ROCK

FREMONT E. KAST

## *Motivating the Organization Man*

MANAGEMENT frequently expresses a frustrating inability to motivate workers toward meeting organizational goals and objectives. Complaints are often heard that run something like this: "What does it take to get these fellows in the plant to stop complaining? We increased their direct pay by over 50 per cent in the past ten years and gave them a retirement program, a sickness and accident plan, and other benefits. Yet their complaints are increasing, and the only way we can maintain output is through more mechanization. Looks like a recession is the only thing that will straighten them out."

Moreover, the problem is not limited to rank-and-file employees; motivating and satisfying engineering and technical personnel is equally troublesome. Even though orbiting space vehicles and rising scientism throughout the nation have increased the status, monetary rewards, and prestige of scientific and technical personnel, their effective integration into the corporate family has been difficult. The prime asset of scientific personnel is creativity and independence of mind, which must be relatively unrestricted by formal organiza-

tional requirements. Yet they must be motivated to work as part of the corporate team and have to be willing to subordinate individual and even professional requirements in favor of corporate objectives.<sup>1</sup>

At a recent management conference, a high-level line executive said, "How can I get these independent characters to see that they have to operate within the organization and that corporate needs are sometimes more important than requirements of the scientific method? Why, they don't really understand what we are in business for, and every time I try to pin them down to do something for the company, they run off to another meeting where they can read high-brow papers and get their egos inflated."

Nor has the question of effective motivation escaped the inner circles of higher management. The president of one of our larger corporations, in discussing the problems of motivation, stated that it was increasingly difficult to find means of inducing his top executives to higher levels of performance. He put the

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<sup>1</sup>William L. Swager, in "Improving the Management of Research," *Business Horizons*, II (Winter, 1959), 42-49, points up the problems facing management of research and development and suggests several sound programs for their solution.

blame directly on the progressive income tax because it has limited the effectiveness of monetary incentives in high-income brackets. He seemed to feel that when monetary incentives are taken away, few alternatives remain for stimulating executives to greater effectiveness.

These statements indicate a major dilemma facing modern management. Every organizational activity, from the small informal group to the large-scale business, governmental, or religious organization, requires that the individual subordinate his independence and discretion in favor of organizational requirements. What can the business organization offer as a reward for this sacrifice? Or is there an insoluble conflict between the needs of the individual and the objectives of the organization?

Perhaps some light can be shed upon these problems if we attempt to define the characteristics of an organization and to determine what motivates its participants. Possible conflicts between organizational requirements and individual needs will then be revealed.

#### THE ORGANIZATION

An understanding of the basic characteristics of all organizations is fundamental to the discussion of alternative means of motivating people for effective participation. Any organization involves the integration of human and physical resources for accomplishing objectives, and by its very nature is a social structure. E. Wright Bakke defines the social organization as:

" . . . a continuing system of differentiated and coordinated human activities utilizing, transforming, and welding together a specific set of human, material, capital, idealational, and natural resources into a unique problem-solving whole whose function is to satisfy particular human needs in interaction with other systems of human activities and resources in a particular environment."<sup>2</sup>

<sup>2</sup>E. Wright Bakke in Mason Haire, ed., *Modern Organization Theory* (New York: John Wiley and Sons, Inc., 1959), p. 50.

This definition, although complex, is appropriate for all of man's organizations and emphasizes the following characteristics: (1) a system of differentiation of human activities; (2) a system for integration of human activities; (3) objective orientation for satisfaction of human needs; and (4) interaction with environment.

Although each of these characteristics has received a great deal of attention, most of the current "organization theories" deal with one rather than with all of them. In this article, I will concentrate on the third, the orientation of the organization toward the satisfaction of human needs, for herein lies the problem of motivation.

In simpler organizations, such as family or kinship groups, the objective of need satisfaction of the various participants is obvious. The needs are easily determined, and the relationships between organization members, determined primarily by physical characteristics or sociocultural forces, are clear-cut. However, in the more complex organization, such as the business corporation, the objective of need satisfaction is not so simple. Questions such as "Which needs will be satisfied for whom?" must be answered. Obviously, in any social organization there are likely to be conflicts among the various participants; thus, the complex organization must develop elaborate means for allocating need satisfaction among its participants.

The question remains of why individuals participate in the organization. Theoretically, each employee will continue working effectively in an organization when the inducements are greater than the contributions that he is asked to make. In this Barnard-Simon theory of organizational equilibrium, the central postulates are:

- 1 An organization is a system of interrelated social behaviors of a number of people whom we shall call the participants.
- 2 Each participant and each group of participants receive from the organization inducements; in return, they make contributions to the organization.

3 Each participant will continue in an organization only so long as inducements offered to him are as great as or greater (measured in terms of his values and in terms of the alternatives open to him) than the contributions he is asked to make.

4 The contributions provided by the various groups of participants are the source from which the organization manufactures the inducements offered to participants.

5 Hence, an organization is solvent and will continue in existence only so long as the contributions provide enough inducements to draw forth these contributions.<sup>3</sup>

The inducements that the organization provides and the willingness of the individuals to contribute to organizational goals are dependent upon many variables, including the aspiration level of participants, the alternatives available, the formal reward and punishment system, and the state of the external environment. However, the types of satisfaction that the organization can bestow depend mainly upon the nature of individual motives.

### *Motives and Needs*

In any social organization, the extent of the individual's effective participation depends, basically, upon the degree to which the organization satisfies his needs. What are the needs that motivate man's behavior? There are many ways of classifying man's motives but perhaps the most basic is in terms of their origin. Sherif and Sherif distinguish motives as:

1 *Biogenic motives.* These originate in the physiological requirements and self-regulation process of the organism that maintain equilibrium in the "internal environment," within certain limits. The self-regulating processes are referred to as homeostasis.

2 *Sociogenic motives.* These motives are acquired in the course of the individual's development in a social setting. They are formed in connection with interpersonal re-

lationships, group relations, or established social values or norms in institutions.<sup>4</sup>

This distinction of human motives emphasizes that behavior is a joint result of inter-related factors both from within the individual and from sociocultural influences. Although this breakdown of motives is useful in a general way to indicate the origin of human motivation, it is not sufficiently detailed to provide adequate guidelines for management. A. H. Maslow has set forth a theory of motivation that provides insight into the kinds of organizational forces that may influence behavior.<sup>5</sup> He distinguishes man's basic needs as:

1 The physiological needs such as hunger, thirst, the activity-sleep cycle, sex, and evacuation.

2 The safety needs for protection against danger, threat, and deprivation.

3 The love needs for satisfactory associations with others, for belonging to groups, and for giving and receiving friendship and affection.

4 The esteem needs for self-respect, for self-esteem, and for the esteem of others, often referred to as the ego or status needs.

5 The self-actualization or self-fulfillment needs to achieve the potential within himself, for maximum self-development and for creativity and self-expression.

Of what value is the theoretical discussion of human motivation to the executive who has to direct human and physical resources toward corporate objectives? These objectives can be accomplished only by inducing the cooperation and enthusiasm of all organizational participants (including management itself) through the satisfaction of their needs. Certainly it is not difficult to understand the necessity for satisfaction of physiological needs, but, as we move up the scale to the higher needs, we run into considerable confusion. Sociological and cultural forces have a

<sup>3</sup>James G. March and Herbert A. Simon, *Organizations* (New York: John Wiley and Sons, Inc., 1958), p. 84.

<sup>4</sup>Muzaffer Sherif and Carolyn W. Sherif, *An Outline of Social Psychology* (New York: Harper & Brothers, 1956), pp. 365-87.

<sup>5</sup>A. H. Maslow, "A Theory of Human Motivation," *The Psychological Review* (July, 1943), pp. 370-96.

great impact upon the means for satisfaction of sociability, status, and self-fulfillment.

The satisfaction or thwarting of needs has a pronounced influence on man's behavior. But not all are of the same intensity, nor do they influence behavior similarly at all times. There is substantial experimental and experiential evidence that man has a hierarchy of needs with the physiological needs having a higher level of prepotency. When a man is deprived of a basic need such as food, frustration influences his entire behavior. Under conditions of semistarvation for an extended period (a period like that encountered in a concentration camp or through a self-imposed diet), hunger comes to dominate more and more of the individual's thoughts and activities. With deprivation of biogenic needs, the sociogenic or higher-level needs become less important.<sup>6</sup>

#### *Motivation in an Affluent Society*

In an advanced society where basic physiological needs have been substantially satisfied, the whole concept of motivation for organizational effectiveness must be re-evaluated. Once a lower-level need is satisfied, it no longer serves as a prime motivator. Thus, the physiological needs, when chronically gratified, cease to be active determinants of behavior. Furthermore, the more unlikely the possibility of an unsatisfied need (in the thinking of the individual), the less his behavior will be influenced by this need.

The American economic system has had phenomenal success in meeting the subsistence and safety needs of its citizens. With greatly increased productivity and higher levels of employment, our gross national product (measured in constant dollars) has increased by 150 per cent since 1929 and by nearly 60 per cent in the period since 1947.<sup>7</sup>

<sup>6</sup>For a full discussion of the impact of a deprivation of biogenic needs upon sociogenic motives see *An Outline of Social Psychology*, p. 443.

<sup>7</sup>*Economic Report of the President* (Washington: U. S. Gov't Printing Office, 1960), pp. 156-57.

Per capita personal income increased from \$1,268 in 1946 to \$2,148 in 1959. Even though there are instances of people living at the subsistence level, our economy has provided rewards substantially above this level for the majority of citizens. Our safety and security needs have also been basically satisfied by the growth of business, union, and governmental social security plans over the past thirty years. The future promises an even greater ability of our economic system to meet the primary subsistence and security requirements of our population.

What, then, is the problem? If we have been so successful in meeting these fundamental needs for human happiness, why don't we have a higher level of satisfaction and more cooperation in our corporate enterprises?

The means of satisfaction of human needs are not necessarily interchangeable. An increase in pay or fringe benefits will not generally satisfy employees' needs for sociability, status, or self-fulfillment. Any attempt by management to supply greater satisfaction of one need will not sublimate the behavioral influence of others. It appears that, while we have been successful in meeting the physiological and safety needs of employees, we tend to undervalue the higher-level social, status, and self-fulfillment needs. These have assumed a much more important position in our motivation structure than they would in a society of scarcity. Zaleznik, Christenson, and Roethlisberger, in reporting their research on motivation and productivity, summarize this concept as follows:

"Thus management finds itself in a tough situation. By satisfying its workers' subsistence needs it has lost its conventional controls for motivating them. It has released new wants which its old motivational tools cannot satisfy. Moreover, it has unwittingly organized its work in ways which do not provide the conditions which will allow these new needs to be satisfied. As a result, many of the workers' new needs for membership, status, and growth become thwarted and so-called human relations experts are hired to deal with

these thwarted needs which management has unwittingly produced in the first place.<sup>8</sup>

Their conclusions, strongly influenced by their ideological and ethical framework, suggest that management must direct its efforts toward satisfying higher needs in order to increase satisfaction and productivity.

### THE CONFLICT

The preceding conclusion, while offering promise, fails to appreciate many hurdles and also assumes a position of responsibility (and authority) for the business corporation, which may be in conflict with our democratic concepts of a pluralistic society.

While the organization is a means for the fulfillment of the individual's needs, it also requires him to subordinate certain wants. Every organization, even the most voluntary social activity, demands that the individual direct his behavior toward the accomplishment of group objectives. The assumption that the business organization should be able to satisfy *all* of the needs of its participants and still accomplish its goals is in direct conflict with the requirements of organized behavior.

The business organization is most effective in providing for the fulfillment of the primary needs of participants. The basis for the satisfaction of these needs is a direct result of the productive effort of enterprise. However, the higher-level social, status, and self-fulfillment needs are more abstract and often outside the control of the formal business organization. Fulfillment of these cannot be provided directly by management, but are the result of influences such as the informal work group, the employee's outside professional relationship, his home life, his social activities—in fact, his entire sociocultural environment.

Many researchers have investigated this conflict between the requirements of the

<sup>8</sup>A. Zaleznik, C. R. Christenson, and F. J. Roethlisberger, *The Motivation, Productivity, and Satisfaction of Workers* (Boston: Harvard Graduate School of Business, 1958), p. 403.

formal organization and the personality development of an individual. Chris Argyris states that the emphasis of the formal organization on the rationality of task specialization, a chain of command, a unity of direction, and span of control runs directly counter to the development of the human being in our Western culture. As a result of this basic incongruity, the individual is frustrated and does not work effectively to accomplish organizational goals.<sup>9</sup>

Inherent in this conflict between the individual and the organization is the question of balance between the centralized, bureaucratic organization and participative, democratic processes.<sup>10</sup> Specifically, to what extent are the democratic, individual self-determination processes practical or possible in the business organization?

#### *Bureaucracy and Democracy*

Questioning of business responsibility and the concern over the subordination of the individual to the organization has been expressed by William H. Whyte, Jr. in *Organization Man*, C. Wright Mills in *The Power Elite*, and Alan Harrington in *Life in the Crystal Palace*.<sup>11</sup> Certainly any large organization, to be effective, must have an internal environment for decision-making and control that provides for a uniformity of action and an accepted pattern of individual behavior. The corporation must have disciplined behavior—actions must be anticipated and predictable. How can these

<sup>9</sup>Chris Argyris, *Personality and Organization* (New York: Harper & Brothers, 1957).

<sup>10</sup>The term "bureaucratic" is not utilized herein in an adverse sense. Rather it is used to define the rational organization with the characteristics of specialization of labor, a hierarchy of authority, a consistent system of rules and regulations, employment based upon technical qualifications, and rationality of decision-making.

<sup>11</sup>William H. Whyte, Jr., *The Organization Man* (New York: Simon and Schuster, Inc., 1956); C. Wright Mills, *The Power Elite* (New York: Oxford University Press, Inc., 1956); Alan Harrington, *Life in the Crystal Palace* (New York: Alfred A. Knopf, Inc., 1959); and the German philosopher Karl Jasper, *Man in the Modern Age* (New York: Humanities Press, 1957) provide a profound analysis of the problems man faces in adapting to an "organized" society.

requirements of rationality and uniformity be made compatible with democratic processes? Peter Blau in *Bureaucracy and Modern Society* clearly sets forth the conflict and explains the distinction between a bureaucracy and a democracy in terms of the goals to be accomplished.<sup>12</sup> He suggests that, if an organization is established for the purpose of realizing a specific objective, it is expected to be governed by criteria of efficiency. He defines such an organization as a bureaucracy. Bureaucratization implies that considerations of efficiency outweigh all others in the formation and development of the organization.<sup>13</sup> However, in the democratic organization, considerations of efficiency are expected to be subordinated to the central aims of stimulating free expression of conflicting opinions. Bureaucratic and democratic structures can be distinguished, then, on the basis of the dominant organizing principles: efficiency or freedom of dissent.

The bureaucratic organization is geared to efficiency. For the business organization, the measurement of efficiency is, typically, long-run profitability and growth; these are essential in our competitive society. One of the major concerns of management is to direct and motivate organizational participants so that they will cooperate in meeting these objectives. The business organization has rewarded participants through the satisfaction of their needs—traditionally the subsistence and safety needs. But in the very satisfaction of these needs, the higher-level social, status, and self-fulfillment needs have often been sacrificed. Some authors take the viewpoint that our entire basis of organization is at fault and suggest a major change in administrative concepts. It is, apparently, their view that management should be oriented toward the satisfaction of *all needs*. While I certainly agree that man-

agement should seek new motivational methods, we may be asking the impossible to suggest that any organization primarily geared to economic objectives can or should be the vehicle for total need satisfaction. In fact, a society where the individual has a wide latitude of freedom in the selection of his organizational relationships—in his work, religious, political, and social life—is the essence of our democracy. To ask a business organization to fulfill all of these needs might seriously interfere with our broad opportunities for democratic participation in many organizational relationships.

MANAGEMENT must use effective motivation to secure cooperation from organizational participants and should give greater recognition to the higher-level needs. Total reliance upon monetary rewards, fringe benefits, and employment security as the only vehicles for motivation drastically limits the reward that the organization may bestow. Yet it does not follow automatically that management can and should take on the responsibility for total fulfillment of all needs. The objectives of uniformity and efficiency in the business organization mitigate against the operation of a truly democratic administration. Without democratic processes, the corporation attempting to satisfy all human needs could easily become a paternalistic, monolithic structure. When the business organization, with its requirements for a bureaucratic autocracy, seeks to meet the total requirements of the individual, it runs the grave risk of completely subordinating the individual's freedom—not only in his work life but in his total life. I am increasingly concerned over the current trend to demand "complete involvement" of all participants by the corporate organization. Perhaps we would do better to recognize that man has many needs, some fulfilled by his participation in the business organization, some by other organizations such as educational institutions, churches, social groups, and families; some will not be fulfilled but will be powerful motivators to higher levels of achievement.

<sup>12</sup>Peter N. Blau, *Democracy in Modern Society* (New York: Random House, 1956), pp. 101-18.

<sup>13</sup>As Blau points out, this efficiency is in terms of organizational objectives rather than the objectives of the client. Quite frequently we, as clients, accuse the bureaucratic organization of red tape and inefficiency when in fact these contribute to the standardization, impersonality, and efficiency of the organization but fail to meet our own requirements.

MURRAY L. WEIDENBAUM

## the military market in the 1960's

THE MILITARY market is a dynamic and expanding branch of the American economy, yet it is relatively unexplored. Analyses of this market can provide important background information for management decisions on product lines, research and sales efforts, and investment programs. This article will describe some of the basic relationships in the military market (including related space programs) and appraise the likely developments in the 1960's.

There are at least five characteristics of the military and space market. *First*, this is a major market area that has doubled in volume during the past decade. The total expenditures of the Department of Defense rose from \$20 billion in the fiscal year 1951 to \$41 billion in 1960,<sup>1</sup> which makes this a major growth area of the economy. Purchases for the military establishment and for civilian space ex-

ploration (the latter run about one-half billion dollars currently) are now equal to one-tenth of the gross national product.

*Second*, this is the market in which one-fourth of all capital goods are sold. Almost one-half of all military spending is for hard goods and related capital-type outlays—construction work, ships, aircraft, missiles, and electronics systems. As best as can be estimated, military hard goods now constitute about one-fourth of the total production of new plant and equipment in the United States.

*Third*, one-half of all industrial research and development is sold in the military and space market, and approximately one-fifth of all the R & D performed in the United States is financed by the Department of Defense. In 1958, 56 per cent of the \$4.6 billion of R & D reported performed by private industry was

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<sup>1</sup>Historical data on military expenditures are taken from Department of Defense, *Expenditures by Major Budget Category* (Washington: January, 1960, processed).

funded by the federal government, primarily for military programs.<sup>2</sup>

*Fourth*, as a result of this concentration of R & D, this is the market area with a striking rate of product innovation and product obsolescence, and hence of technological progress. Compared to the 6 per cent average growth rate in the sales of all manufacturing industries during the period 1947-58, the industries primarily supplying the military market registered gains such as 15 per cent for aircraft and parts, and 14 per cent for electronics equipment.<sup>3</sup>

Finally and fundamentally, this is a one-customer market—a government market.

#### A MARKET ANALYSIS

An analysis of the military and space market must proceed along lines rather unconventional to the marketing fraternity. In consumer fields, motivational research may explain why the potential customer tries to keep up with the Joneses. Here, economic and technical analysis may show us how our customer can keep up with the Khrushchevs.

I would like to present an approach to military and space market research in this light. It rests on an unpatented blend of statistical data, historical relationships, heroic assumptions, and a mixture of past boners and good guesses that is usually referred to as experience. The following analysis of the military and space market is developed in three stages:

- 1 A projection of the over-all level of economic activity
- 2 A projection of the military budget on the basis of the economic forecast
- 3 An analysis of the composition of the civilian space budgets. Projections such as

<sup>2</sup>National Science Foundation, *Funds for Research and Development Performance in American Industry* (Washington: U.S. Gov't Printing Office, May, 1960), p. 4.

<sup>3</sup>Census of Manufactures for those years and *Electronics Fact Book*, 1959.

these are designed to convey ideas of future trends and relationships and to provide general orders of magnitude, rather than to forecast specific values for individual years.

#### Economic Projection

The long-term ability of a nation to sustain a defense effort depends on the growth of the economy and the share devoted to military needs. Hence, the economic forecast is the starting point for our analysis. Four strategic factors will be operating from 1960 to 1970 to stimulate economic growth: an expanding population, a substantial increase in the average standard of living, an unprecedented rate of new product introduction, and an expansion of governmental nondefense programs.

The massive wave of R & D projects in the 1950's is a tremendous force for coming changes in the national economy. Commercialization of major technological advances in military and space programs may utilize new methods and processes rather than only adaptations of the military end products themselves. This analysis, on the basis of these factors, yields a gross national product of approximately \$700 billion in 1970, compared to the current level of \$500 billion. The estimate is well within the range of projections prepared by other companies and by various research institutions.

#### Military Spending

It is assumed that the federal budget will rise at about the same rate as the national economy. However, this estimate yields a projection of military spending that is conservatively assumed to be a declining percentage of both the GNP and the federal budget. On this basis, it is estimated that the total level of military spending will rise from the present \$41 billion to a total of \$49 billion in 1970, in terms of today's price levels. It is assumed that: (1) the current state of international tensions—the cold war—will continue; (2) no “fringe” wars will develop involving United States military

forces; and (3) a workable disarmament program will not be adopted during the 1960's.

It is anticipated that, at various periods during the 1960's, international incidents will occur that will result in increases in the funds available for defense spending. Also, "economy" drives are likely to occur from time to time. The net result of these opposing—and essentially unpredictable—forces is a slow, upward, long-term trend in defense spending. A number of forecasters have projected higher levels, often in terms of a constant proportion of GNP. It is true that defense spending has been rising, but it has constituted a declining percentage of GNP since the end of the Korean conflict. This has been our historical experience in periods without "hot" war. The most reasonable estimate appears to be a continuation of this trend, and the estimates shown here are based on that assumption.

The composition of current and planned military programs indicates that the proportion of procurement and other "capital" expenditures will maintain their current share of about one-half of the military budget. Some small further reductions are projected in the operating categories, mainly as a result of the continued declines in the numbers of military personnel. The R & D category is expected to rise as a result of the proportionately larger development work on missile and space programs.

#### *Composition of Military Budgets*

Aircraft and missiles currently dominate the procurement budgets of each of the individual services—the navy as well as the army and the air force. Three major procurement categories—aircraft, missiles, and electronics—account for 80 per cent of total military expenditures. The remaining procurement funds are divided among ships, trucks, artillery, rifles, and other traditional army and navy weapons. Of these items, all but ships (which includes submarines) have shown a major decline in recent years as a result of the shift from conventional equipment to advanced air and space weapon systems.

*Air Force.*—Procurement expenditures of the air force have been one of the fastest growing segments of the military budget. It is anticipated that the over-all category will continue to rise somewhat, but that major changes will occur in the composition of programs.

As shown in Figure 1, aircraft expenditures dominated USAF procurement during the entire decade of the 1950's. This trend will be reversed in the early 1960's when expenditures for missiles and astronautics are expected to exceed total aircraft production outlays. The "missiles and astronautics" category includes such weapons as ballistic missiles and satellites and other operational military space programs. The space programs may produce reconnaissance and bombardment vehicles plus, later, a lunar exploration program. A series of communications satellites is also likely.

It is expected that aircraft will require approximately one-fourth of air force procurement funds in the 1960's; some of the current strategic aircraft programs may continue until the middle of the decade. The available funds indicated on the chart could cover a new tactical fighter, at least limited quantities of advanced supersonic bombers, and modernization—with jet equipment—of the military transport fleet.

The "other" procurement category includes outlays for SAGE, the Dew Line, the Ballistic Missile Early Warning System, and related support programs.

*Navy.*—Procurement expenditures by the navy are expected to continue their post-Korean rise, reaching, by 1970, an annual level of \$5 billion (see Figure 2). The major change shown is a shift in expenditures from aircraft, the largest naval procurement category in the 1950's, back to ships, which are expected to account for almost half of production funds by 1970. The projected increases in the ship category cover accelerated construction of Polaris-carrying submarines, anti-submarine warfare craft, and guided missile ships. Increases shown for missiles and astronautics also result largely from the Polaris

## projections of military spending

FIGURE 1

Air Force  
Procurement

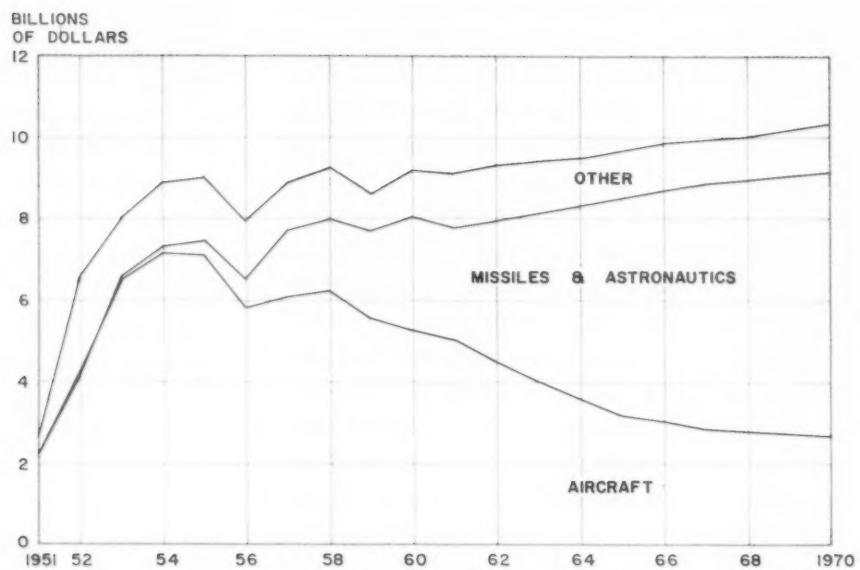
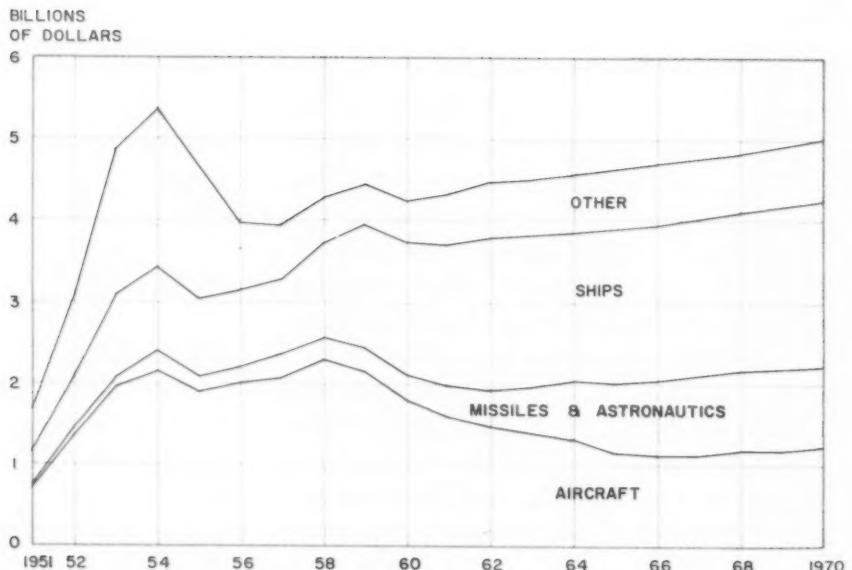


FIGURE 2

Navy Procurement



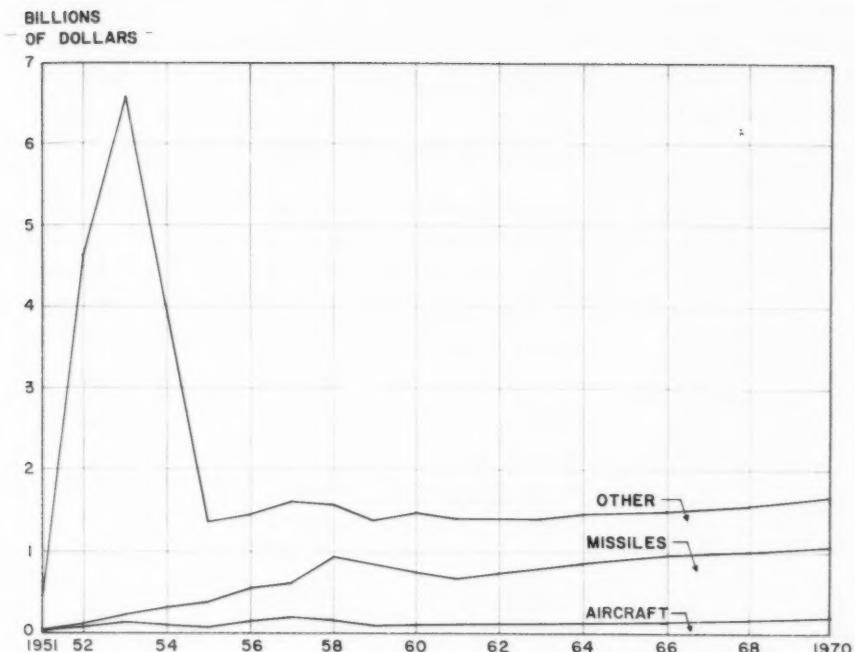


FIGURE 3

## Army Procurement

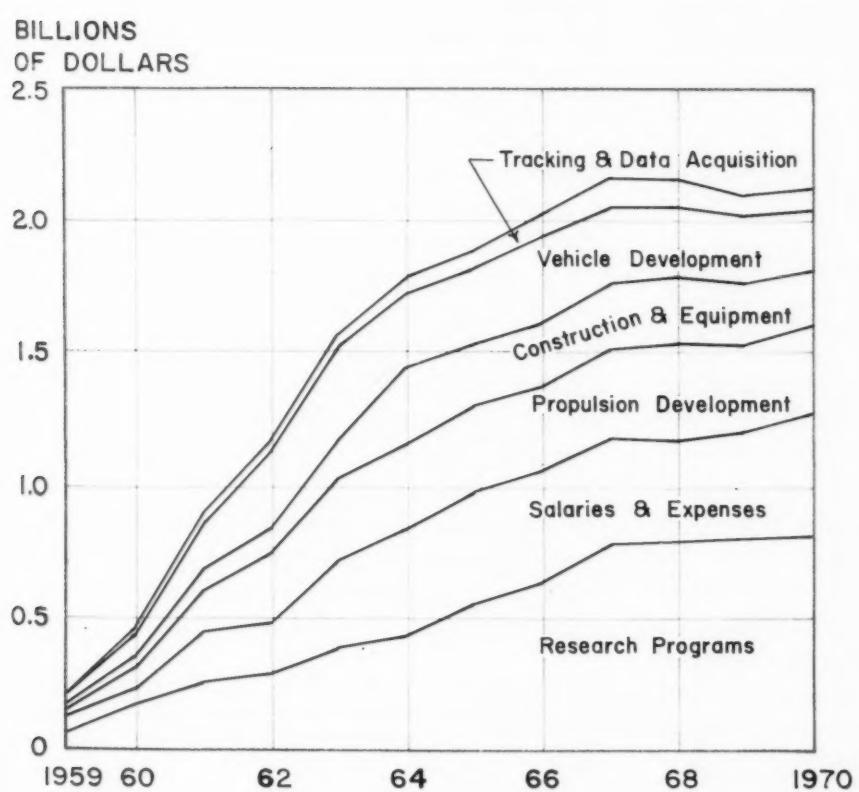


FIGURE 4

## NASA Expenditures

program. The navy is also expected to make significant expenditures for astronautics in its assigned area of navigational satellites.

The projected reduction in aircraft procurement results from the redirection of emphasis to air-carried missiles rather than to high-performance aircraft for offensive, defensive, and ground support missions. Other naval procurement expenditures cover improvements in world-wide communications, anti-submarine warfare support, and other electronics equipment.

**Army.**—The major development in army procurement expenditures occurred with the termination of the Korean conflict, when the expenditure level of over \$6 billion in 1953 was reduced to under \$2 billion by 1955. In more recent years, army expenditures have shown some fluctuation but have given no evidence of the growth trends apparent in USAF and navy procurement. Based on a projection of the current trend, Figure 3 shows a very slight projected increase in army procurement outlays in the 1960's, with the annual total still under \$2 billion by 1970.

In recent years, missile expenditures have dominated the army procurement budget. This relationship is expected to continue with field missile programs competing with Nike and other air defense programs for army procurement funds. Army aircraft are expected to continue to perform primarily utility, reconnaissance, and close support logistics functions. "Other" army procurement includes electronics systems and ground mobility items.

**Research and Development Trends.**—By its very nature, military R & D is directed toward new weapons systems and related military programs. The greater part of the expenditures is devoted to military weapons—aircraft, missiles, ships, and, increasingly, space vehicles. The missile category has been dominant in recent years, and expenditures on space programs are now beginning to exceed outlays for aircraft. This development can be used as a "lead indicator" to gauge the future trend in procurement in the 1960's.

It is estimated that about one-fourth of military R & D is devoted to "research"; three-fourths of the funds are devoted to the development of weapons systems. The amount devoted to basic research comes to a little over \$100 million a year.<sup>4</sup>

#### *The Civilian Space Program*

Essentially, the civilian space market has developed from the military programs; the technology, the pricing and contract procedures, and the marketing problems are all similar. Figure 4 shows the composition of civilian space expenditures. These are not a part of military expenditures; they are budgeted separately. The National Aeronautics and Space Administration has the responsibility for the scientific investigation of space for civilian applications. Total NASA expenditures through 1970, on a cumulative basis, are estimated to be over \$17 billion, mainly for large booster programs and vehicle and payload development.

"Research programs" include a wide variety of programs—all basic research, expenditures for manned space flight, meteorological satellites, communications satellites, sounding rockets, and space rendezvous techniques. "Propulsion development" includes all expenditures for solid and liquid fuel engines, as well as for nuclear, ion, plasma, and other propulsion systems. "Vehicle development" covers the development of boosters for space exploration, exclusive of engines. "Tracking and data acquisition" includes all expenditures for the maintenance and operation for tracking and data-handling facilities. "Salaries and expenses" represents approximately 25 per cent of NASA expenditures for each year through 1970. This category includes all outlays for the construction and operation of NASA facilities, the procurement of administrative equipment, and all personnel costs.

<sup>4</sup>National Science Foundation, *The Federal Research and Development Budget, Fiscal Years 1958, 1959, and 1960*, VIII (Washington: U.S. Gov't Printing Office), 1959.

## Categories of Missile Production

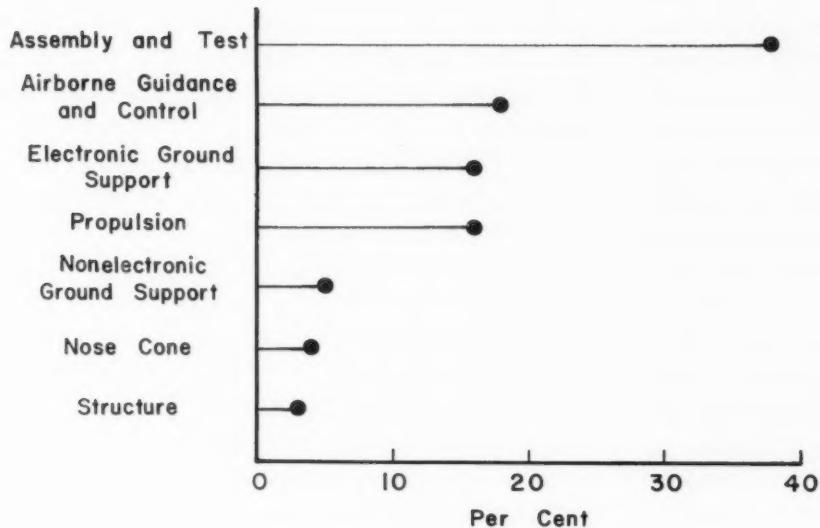


FIGURE 5

military research, development, and production. These included aircraft, electronics, propulsion, and chemical companies. Over one-third of the contracts were awarded to military establishments, such as the Air Research and Development Command, the Naval Research Laboratory, and the Army Ordnance Missile Command. NASA recently announced that it will make rockets and launching facilities available at cost to private industry for developing and operating space communications systems. Dr. T. Keith Glennan, the director of NASA, has stated that the

use of satellites to provide communications links as part of ordinary commercial services may involve, "in the not too distant future," the first nongovernmental activity in outer space. One major utility company has already proposed to develop its own global network of satellites for telephone and television.

## NEW DEMANDS ON SUPPLIERS

Figure 5 relates some of the over-all market trends previously discussed to the impact on the industries supplying the military and space market. The case of missile production is presented because it has been the fastest growing major segment of military procurement and because most of the space program is currently based on missile capability.

In examining the categories, it is helpful to bear in mind the contrast to conventional aircraft production. While airframes constitute the major share of aircraft production costs, we see here that assembly and test and electronics systems constitute the bulk of the missile cost. Most of the assembly and test work is performed by aircraft companies who are prime contractors on most but not all of the missile projects. As would be expected, most

NASA has reported that approximately three-fourths of its budget will be expended through contracts with industry, educational institutions, and other nongovernmental groups. Officials of NASA have stated that a major part of the industrial effort associated with the civilian space program will consist of highly specialized electronic and instrumentation groups. Major industrial support for NASA activities, they feel, will not come from heavy industry; neither quantities of raw materials nor a large variety of individual end products will be required. A NASA official has said that the technical qualities of the work will be extremely advanced, with production more likely to be in the dozens than in the hundreds, and that industrial participation is expected to develop along lines similar to the manufacture of jet aircraft and missiles.<sup>5</sup>

In the fiscal year 1960, NASA awarded 316 contracts totaling \$215 million. The bulk of the funds was awarded to private industrial firms, most of whom had previously participated in

<sup>5</sup>Albert F. Siepert, Director of Business Administration, National Aeronautics and Space Administration, in an address before the Nassau-Suffolk Industrial Procurement Conference, Long Island, New York, February 19, 1959.

of the electronics work is performed by electronics and electrical machinery companies.

However, missile propulsion work is performed by a variety of companies, including a propulsion division of a major aircraft producer, a propulsion subsidiary of a major tire company, an independent chemical company, and a specialized producer of missile propulsion systems. The remaining one-tenth of missile work consists of mechanical ground support equipment, nose cones, and the missile structure itself. The companies participating in this segment include many not otherwise represented in defense production, such as manufacturers of stationary launching platforms and mobile ground equipment. Some of the major companies here are leaders in the industrial rather than the military market, an indication of the changing impact of military and space programs on American industry.

THE PROBABLE developments in the military market of the 1960's can be summarized briefly. The expenditures of the Department of Defense will rise more slowly than the GNP,

from \$41 billion in 1959 to \$49 billion in 1970. Under existing tax rates, this level of defense spending is consistent with large increases in nondefense programs, a balanced budget, and a growing surplus available for tax or debt reduction. This potential surplus could be used for increasing the military budget. Within this budget, the R & D category is expected to continue receiving an increasing share. Over-all, approximately one-half of the military budget is likely to be devoted to procurement of hard goods.

The shift in air force procurement from aircraft to missiles and aeronautics is expected to continue. In the early 1960's, missiles and space programs will begin to dominate this category. Expenditures for ships and submarines will once again replace aircraft as the dominant element of the naval procurement budget. Army procurement expenditures are likely to continue at present low levels, with the bulk of their funds devoted to tactical and defense missiles; NASA expenditures will probably rise from less than \$500 million in 1960 to over \$2 billion by 1967.

THE WILL of the people is the only legitimate foundation of any government, and to protect its free expression should be our first object.

*—Thomas Jefferson, 1801*

FRANZ GEHRELS

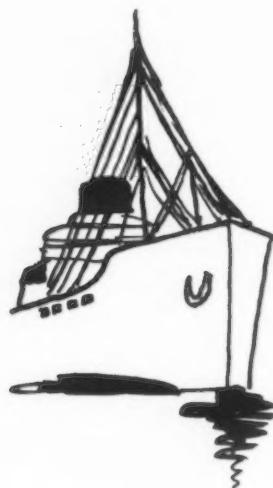
## FREER TRADE and the payments problem

FEW ECONOMIC issues in our history have been so repeatedly and violently discussed as our foreign trade policy. Special groups have often put forward cases for protection that were right from their own point of view, but contrary to the general interest; otherwise enlightened statesmen have failed to grasp the basic question; and the public interest has suffered. The aim of this article is to clear up some of the confusion. It will state what our trade policy should be, and will measure past and current policy against this yardstick. Beyond this, it will consider to what extent our present balance-of-payments problem should be permitted to affect our commercial policy.

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### GAINS FROM TRADE

Elements of our press and some business and labor groups have strongly favored protecting our industry and workers against low foreign wages and the low production costs they believe to result. This association of low wages and low costs seems so clear as to need little explanation; yet, as stated by these groups, it is incorrect. Direct-wage cost per unit of output depends both on the wage rate and on the number of man-hours per unit. But wages are only part of unit cost to any firm; often the greater part of cost consists of purchases from other firms and overhead. The latter are determined in turn by a country's total economy—its transportation system; its supply of raw materials, fuel, and water; its stock of accumulated physical capital; the scale of its industry; its political system; its supply of trained workers, managers, engi-



neers, scientists, and civil servants; and even its economists. This fact explains why the industrial country of Western Europe with the lowest wages—Italy—also has the highest tariffs: It must protect its low-wage but high-cost industries against its high-wage neighbors to the north. And it also explains why high-wage countries such as the United States, Britain, and Germany are such strong competitors in world markets—why, in fact, they dominate world trade.

Another commonly held view, one that has influenced political thinking, been a basis for colonial policy, made and broken alliances, and sometimes led to wars, is the idea that trade is desirable mainly because it provides markets for exports. Imports, according to this viewpoint, are a necessary evil tolerated so that other countries will buy domestic products. While this may have some validity for the individual producer who wants to sell abroad and have a protected market at home, it is certainly not true for the country as a whole. In fact, it is more accurate to say that the main purpose of foreign trade is to obtain imports. Exports should be thought of as a means of obtaining from abroad goods that would be more costly to produce at home; and foreign trade should be considered as a way to produce goods indirectly, that is, by making other goods and exchanging them. Exporting is a necessary evil. It would be bet-

ter, from the social viewpoint, to consume at home all the goods we produce and to have imports in addition. Although countries sometimes do this in collecting reparations from defeated enemies, on the whole, imports are merely tolerated for the sake of exports.

The point being made here has two parts: the "production" aspect of foreign trade and the "consumption" aspect. The former is easily demonstrated with an imaginary example. Two countries, Agraria and Mancunia, have the following relationships concerning cost of goods and resource availabilities:

	Cost of Wheat	Cost of Steel	Resources
Agraria	1	2	100
Mancunia	1	1	100

Without trade each country devotes half of its resources to production of each item. The situation is:

	Wheat Production	Steel Production
Agraria	50	25
Mancunia	50	50
Total	100	75

With the opening of trade, Agraria is pushed by its cost advantage into growing more wheat, and Mancunia into making more steel. The situation then would be:

	Wheat Production	Steel Production
Agraria	100	0
Mancunia	0	100
Total	100	100

The world has gained 25 units of steel without any increase of productive effort: Market forces have made wheat more profitable in Agraria, and steel in Mancunia, and have shifted resource employments accordingly.

If two countries have different resources, so that the goods each can produce have different relative costs, it pays them to specialize. The two together can produce more if each concentrates its efforts where its advantage lies. By exchanging products in trade, each gets a larger amount of goods for the same effort. The very fact of an advantage in one line implies a disadvantage in another; con-

versely, a disadvantage necessarily implies advantage elsewhere.

It is nevertheless possible for a country, at given price levels and currency-exchange rates, to have an advantage or disadvantage in *money costs* in all lines at once. Such a disparity of money costs would be reflected in either a surplus or a deficit in foreign trade. In the case of the former, the general price level would be too low in relation to other countries; in the latter, too high. In either case, an adjustment of the exchange rate would be an appropriate way to bring the price level back into line, and to assure that money-cost advantages in some lines would balance disadvantages in others.

The consumption aspect is somewhat less tangible than the production, since it depends not on redistributing resources to increase specialization, but on allowing the consumer complete freedom of choice. Tariff and import quotas restrict his choice and make him poorer, whereas free trade widens his choice and raises his real income, even though his nominal income remains the same.

Another objective that may conflict with freer trade in specific cases is the provision of an adequate national defense system. Most responsible people agree that our capacity to make such things as machine tools, precision instruments, and motor vehicles is important

to our military strength, and that an adequate supply of raw materials and fuel is essential. Some degree of protection may be necessary in these industries, although many might well operate more effectively with competitive pressure than under protection.

Our present policy of stockpiling such raw materials as the nonferrous metals is appropriate; but restricting such imports as lead, zinc, and oil has brought about more rapid depletion of domestic reserves. Except in the case of oil, would not stockpiling combined with the present subsidy in the form of depletion allowances suffice to encourage adequate development of domestic capacity?

#### EXPANSION AND ADJUSTMENT

Despite the long-run advantages of freer trade, there are difficulties of adjustment in moving from one kind of production to another that are clearly important. When tariffs or quotas are eased or taken away, sectors in competition with imports feel the pressure. Not so often mentioned is that export sectors ultimately gain from the same process — immediately if foreign countries also lower tariffs or in a more roundabout way if the process is one-sided. In fact, our tariff cuts under the General Agreement on Tariffs and Trade are generally matched by our trading partners.

In order to give some specific information on how a further expansion of trade might affect U.S. industry and agriculture, I have taken the classes of goods that the United States at present imports over tariff walls and matched this list with estimates given by Walter A. Salant for the number of workers that would be displaced per million dollars of increased imports in each sector (Table 1). These are the sectors that appear most likely to be affected by a tariff reduction. To be sure, there are categories where, if prohibitive tariffs were reduced, imports might come in, but I have not attempted to pick these out. In addition, if our price level should rise as a conse-



## Worker Displacement and Increased Imports

TABLE 1

Item	1958 Value (in millions of dollars)	Duty (average July, 1958)	Workers Displaced (per million dollars of increase)
Chemicals, oils, and paints	220	14.45%	
Industrial organic			80
Synthetic rubber			67
Paints			91
Miscellaneous and chemicals			106
Drugs and medicines			119
Earth, earthenware, and glassware	195	23.56	
Glass			116
Pottery			189
Metals and manufactures	1,956	11.00	
Carbon steel			91
Alloy steel			94
Stainless steel			97
Primary zinc			96
Primary aluminum			63
Aluminum drawings and rolling			80
Cutlery			123
Tools and hardware			130
Lead and zinc mining			166
Lighting fixtures			138
Machine tools and metal-working machinery			109
Ball and roller bearings			126
Passenger cars and light trucks			125
Motorcycles and bicycles			130
Wood and manufactures	333	7.54	
Plywood			139
Wood containers			167
Wood furniture			171
Paper and board mills			84
Converted paper products			115
Sugar and manufactures	580	8.78	71
Tobacco and manufactures	107	22.15	70
Agricultural products and provisions	1,030	9.65	
Meat, animals, and products			96
Vegetables and fruits			225
Meat packing and poultry			108
Processed dairy products			54
Grain mill products			51
Spirits, wines, and other beverages	227	19.86	
Alcoholic beverages			85
Cotton manufactures	135	19.87	
Spinning, weaving, dying			137
Special textile products			107
Apparel			196
Flax, hemp, jute, and manufactures (see cotton)	120	8.01	
Wool and manufactures (see cotton)	255	28.05	
Silk manufactures (see cotton)	55	25.02	
Rayon and other synthetic textiles, and manufactures	47	24.24	
Synthetic fiber			91
Pulp, paper, and books	78	9.27	
Paper and board mills			84
Converted paper products			115
Miscellaneous	491	18.53	
Office supplies			135
Optical and photo equipment			128
Watches and clocks			138
Jewelry and silverware			137
Musical instruments and parts			135

SOURCE: *Statistical Abstract of the United States*; Walter S. Salant, "Primary Effects on Employment of Shifts in Demand from Domestic to Foreign Products," *Review of Economics and Statistics*, Supplement XL (1958), 91-110. The impact on domestic employment includes all the commodities and services entering immediately or remotely into the production of a particular good.

quence of inflation while foreign costs and prices remained stable, some goods not now included would enter the import category. The converse would be true if foreign costs and prices should rise faster than our own. Further, changes in technology both here and in the rest of the world may make changes in imports.

In Table 2, I have listed our exports and given the direct employment increases that might be expected from a growth of exports as trade restrictions are eased. The qualifications that apply to import estimates apply equally to export estimates.

Table 1 shows that, on the average, approximately 110 workers would be displaced by each million dollars of import increase at the expense of home output. The heights of the duties shown give some idea of the extent to which import competition can be increased by lowering duties—the higher the average protective duty, the more competitive pressure a reduction in the duty will create. Average duties are generally understatement, however, because they are based on the individual ad valorem rates weighted by values of goods actually coming in, and give little weight to the highest duties. A reduction in the higher rates would probably bring about a very considerable increase in imports.

According to Table 2, approximately the same number of workers would be added to employment per million dollars of *export* increase as are displaced by an *import* increase of the same size. This means that if imports and exports were expanded by the same amount, total employment would remain about the same.

The tables illustrate one point that has significant implications for the adjustment process, when trade barriers are broken down. If the shift of resources meant moving from wheat farming to automobile making, or from steel to chemicals, the difficulties of adjustment would be greater than when shifts merely occur *within* steel or chemicals or vehicle manufacture. The general similarity between many of our exporting and importing

TABLE 2  
Employment Growth and Increased Exports

Item	1958 Value (in millions of dollars)	Workers Added (per million dollars of increase)
Animals and products, edible	294	
Meat animals and products		96
Meat packing and poultry		108
Processed dairy products		54
Animals and products, inedible	260	
Not available		
Vegetable food products and beverages, edible	1,928	
Vegetables and fruits		225
Grain mill		51
Vegetable products, inedible	1,071	
Not available		
Textile fibers and manufactures	1,281	
Synthetic fibers		91
Spinning, weaving, dying		137
Special textile products		107
Wood and paper	450	
Paper and board mills		84
Converted paper products		115
Nonmetallic minerals	1,387	
Not available		
Metals and manufactures, except machinery and vehicles	1,531	
Carbon steel		91
Alloy steel		94
Stainless steel		97
Aluminum drawing and rolling		80
Electrical equipment and appliances		100-155
Tin cans and tinware		106
Machinery and vehicles	6,511	
Aircraft and parts		120
Special industrial machinery		123
Passenger cars and light trucks		125
Heavy trucks and buses		114
Motor vehicle parts		104
Machine tools and metal- working machinery		109
Chemicals and related products	1,363	
Industrial organic		80
Synthetic rubber		67
Paints		91
Miscellaneous chemicals		106
Drugs and medicines		119
Miscellaneous	1,650	
Plastic products		123
Miscellaneous manufactures		157
Musical instruments		135
Office supplies		135
Optical and photo equipment		128
Toys and sporting goods		158

SOURCE: *Statistical Abstract of the United States*; Walter S. Salant, "Primary Effects on Employment of Shifts in Demand from Domestic to Foreign Products," *Review of Economics and Statistics*, Supplement XL (1958), 91-110.

lines indicates that this latter type of adjustment is more likely to occur. Consequently, we need not expect large geographic or inter-industry shifts, but much easier readjustments within broad industry classes.

#### TRADE NEGOTIATIONS

U.S. trade negotiating procedure has been based since 1947 on the General Agreement on Tariffs and Trade. Under GATT, each member country negotiates mutual concessions with the principal suppliers of particular items, and these concessions are then extended to all other members. The State Department conducts our negotiations under the authority of the President, as provided in the Reciprocal Trade Agreements Extension Act of 1958. This act permits concessions under three types of limitations: a maximal 20 per cent ad valorem cut spread over four years, with not more than 10 per cent in any one year; a reduction by, at most, two percentage points, spread in the same way; or a reduction to a 50 per cent rate where the current rate is higher. The State Department may choose whichever of the first two alternatives provides the desired concession.

In addition to these concessions, there are the so-called "peril points," established by the U.S. Tariff Commission to indicate when tariff levels for certain imports are so low as to endanger U.S. industries. When a proposed tariff reduction would reach or pass a peril point, the President is informed by the commission. However, his decision need not follow the commission's recommendation. The commission in turn holds public hearings at which domestic interests can present their cases against particular tariff concessions.

If it is true that we gain by importing precisely those goods which have a lower price abroad, however, the commission's terms of reference are clearly anachronistic. If the commission were to perform its duty strictly and literally, most imports would never be

permitted to increase since any increase would be detrimental to some domestic competitor. But the commission is, fortunately, rather liberal in the interpretation of the peril point provision, and the domestic producer must present a fairly strong case to be heeded. On the one hand, the commission does useful fact-finding work and helps to prevent too-sudden changes in the tariff structure, while on the other hand, it has sometimes stood in the way of desirable tariff reductions. If we agree that gradual reduction of duties is better than precipitous change, then the commission, on balance, may serve a useful purpose.

#### BALANCE OF PAYMENTS

So far we have simplified the picture by assuming that, by and large, the flow of exports and the corresponding payments for them roughly matched the flow of imports. This was legitimate for the purpose of showing the gains from trade. But during most periods of our history such a balance has not existed. In the period from the Civil War to the turn of the century, we normally had an excess of imports over exports, financed by an inflow of long-term capital and the sale of gold abroad. Between the two wars we usually had an export surplus, balanced in a somewhat more complex way by gold inflows, long-term capital outflows, and, during the thirties, short-term capital inflows. Finally, during the postwar period, we have had a large, but shrinking, export surplus financed by a combination of intergovernment aid, gold movements, and capital flows. In the early postwar years, the flow of gold was into the United States, but since 1951 it has been consistently outward. On the other hand, short-term capital (much of it used to buy U.S. Treasury bills) has been moving heavily inward in the last few years.

The point that these episodes illustrate is the slowness of underlying forces to create balance-of-payments equilibrium. It can be said that equilibrium exists when any difference between payments for imports and ex-

ports is more or less balanced by long-term private capital flows and gold flows not greater than domestic production. Heavy flows of gold or short-term funds (into bank deposits or securities) or large government transfers usually indicate a fundamental disequilibrium that requires correction.

#### *Foreign Aid*

Until recently our balance-of-payments position was used as an argument in support of further tariff reductions. The rest of the world, particularly Europe, needed massive dollar grants and loans if it was to keep an adequate flow of imports, rebuild war-damaged industry and agriculture, and maintain an acceptable level of consumption. But the emphasis

ferment. There are strong political motives as well as altruistic reasons for this aid. If the West does not offer these peoples an acceptable solution to their problems, they will seek it elsewhere, possibly to their own detriment and certainly to ours. Europe already is aiding these areas through subscriptions to the World Bank, has committed itself to development programs in French North Africa, and is discussing aid measures to other areas. However, despite these beginnings, the main burden of aid to backward areas is likely to remain in our hands, and we should not expect any reduction of this burden in the near future.

#### *Our Current Position*

A potentially awkward situation now faces us. Our export surplus is no longer large and quite possibly could disappear entirely; meanwhile, we are committed by our world position to continue aid programs abroad. Our gold reserves are, perhaps fortunately, no longer as high as they were, and our short-term external liabilities are almost as high as our reserves. Further tariff reductions tend to encourage imports, and unless accompanied by tariff concessions from other countries, will tend in the short run to worsen the balance between exports and imports. Should we nevertheless continue with tariff reductions? In the first place, the negotiating procedure under GATT assures that concessions will be made on a two-way basis, although the final effect on the balance of trade cannot be estimated closely. In the second place, if easing trade restrictions should at first worsen the trade balance, other corrective measures exist.<sup>1</sup>

*The Central Bank.*—Traditionally, the central bank acts to halt temporary payments deficits by pushing up interest rates, especially



of foreign aid since Marshall Plan days has shifted from postwar reconstruction in Europe to long-term economic development in the world's underprivileged areas. Europe has more than recovered from wartime destruction, and, far from suffering a dollar shortage, now has the more pleasant problem of investing its surplus dollar earnings. Our aid program is now concentrated on the Middle East, Southeast Asia, and Korea, with growing attention to Latin America, while Europe is repaying the loan portion of our aid faster than some countries there receive new aid.

The immediate reasons for aid have changed, too. Today, aid is a matter of exporting Western education, health standards, and technology to countries where the mass of people live in misery, and where society is in

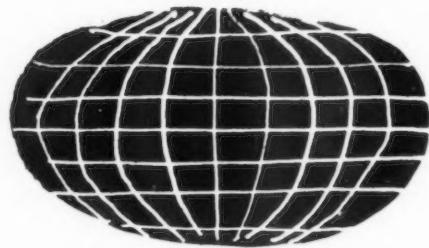
<sup>1</sup> Some of the experts argue that our concessions have, on balance, been more generous than those received from our negotiating partners. This assertion is difficult to test, but, if true, it would have been quite appropriate during our period of large trade surpluses.

those of short maturity, through such measures as open-market security sales. With the return of political and economic stability to the Western world and the easing of exchange controls, funds have been responsive in recent years to the pull of interest-rate differentials between financial centers. Ideally, a measure such as open-market security sales would draw in funds from abroad to the extent needed to prevent a loss of gold without any impact on the domestic economy. Temporarily, higher rates might be localized to the New York money market without significant effect on credit throughout the nation. If used more than lightly and temporarily, however, such measures can have clearly undesirable domestic repercussions. The sacrifice of domestic investment activity is a high price to pay for stability of the balance of payments.

A way out of this difficulty was recently put forward by President Kennedy's economic task force under the chairmanship of Paul A. Samuelson. Since short-term rates are the more significant for the international flow of funds, but long-term rates may be more significant for domestic capital formation, the Federal Reserve should enter the bond market actively in order to alter the relation between bond and bill rates. Bill rates must be held high in order to discourage any outflow of funds, while bond rates would be pushed down by a combination of actions, including open-market purchases. At the same time, the group recommends, if the present recession persists, greater emphasis on fiscal measures through tax and expenditure adjustment as a device to restore high activity and permit the monetary authorities to deal more freely with the balance of payments.

*Exchange Rates.* — The present payments deficit may well be temporary; in fact, the recent growth of our exports has been encouraging. But the deficit could persist for a longer time; and then a combination of the foregoing measures would probably not correct the underlying difficulty. In that event, a second, so far less popular remedy—that of permitting

wider variations in the prices of foreign currencies—should be considered. This could be done by following the Canadian practice of permitting market forces to determine foreign-exchange prices. Discretionary buying and selling by the central bank maintains an orderly market under this system. Canadian experience suggests that market variations would perhaps be less than plus or minus 10 per cent, if domestic prices remain stable. The advantage of exchange-rate flexibility would be that the price mechanism could go into operation quickly to correct any disturbance, no matter what the cause.



All of this means that it is possible for us both to continue our foreign-aid programs and to take the lead in freeing world trade from restrictions. Even if economic forces should at times combine to put pressure on our balance of payments, there are means for dealing with these forces that do not entail holding back from further tariff reductions.

#### OUR TARIFF TRADITION

Unlike England in the latter half of the nineteenth century, the United States and Germany, both newcomers on the industrial scene, imposed high protective tariffs on manufactured imports. In contrast with today, influential economists in both countries favored the protection of newly established industries. It was argued with some justice that new industries here lacked the capital, technology, markets, and experience needed to compete with

the more advanced industries of England. After an initial period of growth and maturation, it was thought, protection could be discarded.

A policy once adopted is not readily discarded, however, and as recently as 1930, the Smoot-Hawley tariff, adopted in the atmosphere of the depression, levied a weighted average rate on dutiable imports of about 50 per cent.<sup>2</sup> The real turning point in our tariff policy came with the Reciprocal Trade Agreements Act of 1934, although there had been reductions prior to 1914. Partly in consequence of reductions under the act, and partly through the reduced effect of specific duties because of price rises, the average on dutiable imports had fallen to 15 per cent by 1949. A little more than half of the 30 percentage-point reduction was due to rises in dollar prices of imports, and a little less than half to schedule reductions.<sup>3</sup> By 1958, the average rate had reached 11 per cent.

It is difficult to assess the causes for this shift in policy: Part was due to the personal convictions of Secretary of State Hull and a favorable climate in Congress. Part, especially since World War II, has been due to increased confidence on the part of industry and labor that they can handle foreign competition with little or no protection. For example, in the 1958 Congressional hearings on extension of the Reciprocal Trade Agreements Act, the AFL-CIO came out strongly for the act and proposed a plan for aiding businesses and workers displaced by imports to relocate. Witnesses from the business community were divided: Those favoring additional tariff reduction were often associated with firms involved in foreign trade, while those seeking

<sup>2</sup> Most raw materials and crude footstuffs and a few other items, which then accounted for about 60 per cent of the value of imports and now account for less than 40 per cent, were and are duty free.

<sup>3</sup> This is based on a computation by A. R. Prest and A. D. Roy in "The United States Tariff," *Bulletin of the London and Cambridge Economic Service* (February, 1950), pp. 1-7.

protection were from industries subject to pressure from imports.

Academic economists appearing before the Congressional committee uniformly favored extension of the act. In contrast to the arguments advanced here, much of their case rested on our apparently persistent payments surplus. The rest of the world needed to earn more dollars from us in order to pay for our exports; and they would be helped by a reduction of our tariffs.<sup>4</sup>

Despite hopeful signs of industry and labor sympathy with the program of further tariff reductions, the trend since the end of World War II has been to put narrower limits on the President's tariff-reducing powers. This has been evident in the permitted limits to rate changes, and in the escape clause, the peril-point amendment, and the defense-essentiality provision in the later versions of the trade agreements act. Although the trend is partly due to proper awareness of defense considerations, it is also significant that tariffs are now so low that further reductions may be felt by domestic industries.

Should we be satisfied with our present rate of progress in liberalizing trade, or should changes be made in procedure, or even in basic objectives? Much of the success of our trade program has been due to its placing negotiating power in the hands of the President. Pre-1934 tariff legislation had been too easily caught up in sectional interests, whereas the executive branch has found it easier to place national above special interests. Negotiations thus far might have been more effective if the State Department were given more latitude in granting concessions, but this would require a fundamental revamping of procedure. The Tariff Commission's role might change from one of peril point determination to one of more

<sup>4</sup> The voluminous testimony of these hearings is published in *Renewal of Trade Agreements Act, Hearings before the Committee on Ways and Means, House of Representatives* (Washington: U.S. Gov't Printing Office, 1958).

general fact gathering on industry costs and markets.

WE HAVE shown that the freest possible trade is ultimately the most desirable because it provides the greatest real income for a country's productive effort. Trade should perhaps be restricted in special cases for military or developmental reasons, but these cases can be handled within the general framework of a liberal trade policy.

The problems of adjustment of individual industries to freer trade should not be overlooked. Increased competition from imports may result in displacement of workers and plant shutdowns, and special aid may be necessary, but the evidence indicates that these adjustment problems would be moderate. Broadly speaking, our exports involve many

of the same industries as our imports; simultaneous expansion of both imports and exports would often mean that a particular sector would expand in some lines while contracting in others. Moreover, our procedure for tariff negotiation encourages such parallel expansion.

Our present balance-of-payments situation somewhat complicates the case for expanding trade. It was easier to argue for more imports when other countries had difficulty in finding enough dollars. In the present context, however, there are better ways to handle balance-of-payments worries than to restrict trade. It would be strange, indeed, to see the foremost advocate of liberal trade policies over the last generation—the United States—reverse its position because of a mild and perhaps temporary payments situation.

THE FOLLOWING anecdote shows how the Arabs in the tenth century anticipated the aeroplane. The Fatimite Caliph Aziz, who lived in Cairo, expressed a desire for fresh cherries from Baalbek, which lay across a desert four hundred miles away to the north. On the Wazir of Baalbek being informed of this, he collected six hundred carrier pigeons, and attached a silk bag containing one cherry to the leg of each. The cherries arrived at Cairo in perfect condition in time for the Caliph's dinner that day.

—Maurice Collis

MARCO POLO

PAUL J. GORDON

## FORMULA FOR A 70-MINUTE HOUR

**I**F THE resources of the country are to be well used, executives and professionals must become, to a greater degree, masters of their own time. Time is a limited and valuable resource that must be allocated among competing objectives—national, institutional, and personal. The needs of each organization and the well-being and development of key personnel can be advanced or retarded significantly, depending on how well time is planned and used.

As one key executive said at the opening of an executive program for a large national enterprise, "The trouble with this outfit is that we are so busy mopping the floor we never get to turn off the spigot!" This executive was justifiably concerned with methods that were not yielding the greatest return for energy expended.

How can we get more "mileage" for our time? It is clear that what portion of our working time we spend on what activities is more

important than how much time we spend. We can put in a short work week, encounter obstacles all along the way, finish nothing, and end up exhausted. We can put in a long work week, complete one important project, get others under way, and end the week exhilarated. The question, then, is not how to cut the forty-hour week to thirty, but how to get more mileage out of the time we spend working—which is more like sixty-five. (As a special dividend, we may salvage five or ten hours for uninterrupted thought.) In fact, most of us who read this periodical are in types of work and stages of growth that involve more than forty hours. The legend of the forty-hour week, repeated over and over, makes too many of us feel harassed and guilty.

It has long seemed to me that open recognition of the work week of representative executive and professional people might lead to greater degrees of objectivity, analysis, and improvement. Is there such a thing as a typical executive and professional work week? Evidence is limited and, in the final analysis,

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personal. Indications are, however, that an estimate of fifty-five to sixty-five hours is defensible. This total includes ceremonial duties and other activities that some of us forget.

One recent survey tallied about forty-three hours a week at the office, but a total of about seventy hours a week in work-related activities. The weekly breakdown was as follows: forty-three hours at the office; seven hours on paper work at home; five hours on business entertaining; five hours on commutation to and from work; three and a half hours on study to further the career; and an estimated six and a half hours a week on business travel.<sup>1</sup>

A point made in the survey, clear even in the limited data given above, is the lack of watertight separation between activities that might be thought of as purely executive and professional and those that might be considered more social and personal. Executive and professional people not only seek the sanctuary of a nonoffice environment to get some of their best thinking done, but often use their homes for business entertainment. On the other hand, the pace of a week frequently requires that nonbusiness activities be completed during working hours. Such mixing of business and nonbusiness activities complicates the problem of allocation of time for work and leisure.

Another point of the survey was that executives differ in their views of work and leisure. Some declared themselves in favor of more leisure; others protested that the challenge of the work was so absorbing that a shorter week would be unattractive. People in both categories, however, put in roughly the same hours. Therefore, opinions differ on whether the typical executive and professional work week constitutes a problem. And one can always become involved in the argument of whether time pressures involve problems or are only symptoms of something more basic.

The fact remains that many executive and professional people put in long hours. What

many of us may forget to our own great disadvantage, especially if we are relatively new at executive and professional work, is that people in such categories constitute special cases. They cannot live as others do. Despite apparent status, there is less real freedom and less real leisure. Comparisons that include or cross this category with others frequently fail to take into account how the work of the world actually gets done.

In an essay dealing with other matters, one well-known student of the American social scene had this to say of the executive and professional category:

"One way of looking at American society at present is to divide it into two groups of people: one, a relatively small white-collar and professional group who work long hours and bear disproportionate responsibilities; and the other, a relatively large group who work short hours (even if one does not include coffee breaks) and bear few taxing responsibilities. This latter group includes the millions of forty-hour-per-week workers, of thirty-hour-per-week school children, and of retired people.

"American life is, of course, unevenly mechanized and systematized, and the first-named group must fill in for America's deficiencies—and rise to its challenges—out of their personal energies and at the frequent expense of their own budget of leisure and ease. Some in this group of people are industrial managers, well-paid in money and prestige for worrying about productivity, the meaning of which has been extended to include employee morale, health, psychological security, and general happiness; and for worrying about selling a product, a transaction which now embraces many novel private and public services (budgeted for under "good will"). Some in this group of people are high civil servants, paid neither in money nor in unambiguous prestige for worrying about the resentments of the rest of the world. Some of these people are doctors, paid with very great prestige and moderately great fees for working sixty- and seventy-hour weeks to repair the health of a nation. . . . And some of the people in this first group of overtime worriers are professors, perhaps increasingly bitter

<sup>1</sup> August Heckscher and Sebastian deGrazia, "Problems in Review: Executive Leisure," *Harvard Business Review*, XXXVII (July-August, 1959), 6.

about pay and prestige, and more and more harassed in trying to make sense of their data (too much of it, and too equivocal), of each other (more conferences, committees, and projects than ever), and of their students (more of whom can now afford college...).<sup>2</sup>

The problem is not so simple that we can jump to conclusions about the intelligence, the psychological characteristics, or the organizing abilities of people who put in long hours. Nor will the problem always be solved by the addition of a few simple tools and time studies. Many have already tackled the more obvious kinds of personal planning, delegation, and so forth; yet the squeeze continues.

The problem is more complicated than simply working faster, working less, working by some plan, or resorting to the magic of delegation. For an executive or professional at any level, especially if he and his organization are going through an accelerated rate of growth and change, the squeeze is greater than that experienced by most people.

Salvation lies in the ability to control the "spigot" first, then control the remaining problems as much as possible. Part of the reward should be in the form of variety and freedom, including more freedom than subordinates have in choosing what to spend time on. How much freedom depends on many variables; men in positions of public trust, for example, are not free to follow caprice. We cannot be content, however, simply to say that "It all depends on the situation." Situations can be analyzed, and the variables and the patterns that keep recurring in diverse situations can be verified or postulated. General guides on what to look for and what actions to take for given situations can be developed and tested in the practical realm—possibly validated under scientific research conditions. Most of us, however, would settle for less than scientific validation.

One writer takes, as an example, a small manufacturing company doing a \$5 million annual business.<sup>3</sup> When the work done by the head of the company was classified, the following picture emerged of how he was spending his time:

	Percentage of Total Time
General management	1
Activity area management	
Research and development	0
Production	8
Marketing	22
Finance and control	0
Personnel	7
External relations	3
Solving special problems	2
Clerical and routine work	57

As the writer points out, "No one would have any difficulty in advising that particular president on how to improve his managing methods. Indeed, with a picture like this before him, the president would have no difficulty in making improvements himself. . . . Is it any wonder the company was in trouble?"

What are the implications of all this for each of us and what can we do to make better use of our own time?

#### THE TECHNIQUE

The technique for improving the use of our time requires the critical questioning of everything that we now do. This means that we need an inventory of our present activities—an up-to-date picture of the sequence and the categories of daily, weekly, or monthly activity—and some preliminary analysis of the ways in which we now consciously or unconsciously allot our time or allow it to be regulated by others.

There is always the question of whether we

<sup>2</sup> David Riesman, "Letter from the Midwest: Thoughts on Teachers and Schools," *The Anchor Review: Number One* (New York: Doubleday & Company, Inc., 1955), pp. 27-60.

<sup>3</sup> "The Manager's Time," *Public Administration News Management Forum*, VIII (September, 1958). Reprinted from *Management Topics*, published by H. B. Maynard and Company, Incorporated, management consultants.

are treating problems or only symptoms; if we cannot find time for this analysis, for example, the problem may be more basic. This technique can still function usefully; along the way, we will be able to judge the nature of our real problems, the alternatives that are actually open, and the action that may produce a more satisfactory situation.

### *Make the Diagnosis*

Five broad questions will assist us in making the diagnosis: what do we want, what are the "plus" activities,<sup>4</sup> what are we now doing with our time, how is the time allotted, and what factors control our time?

**What do we want?** No matter how many times we go through this exercise, no fundamental change in basic work habits is going to be accomplished without definite motivation. Either we sense that there is a problem of some kind and resolve to seek a solution, or we are willing to use the technique to see what might come out of it, even though we do not sense the existence of a problem. (The latter might be a case of self-deception.) We might start with the second approach, just to get rolling, but unless we come around to the first, we will be less likely to act on whatever we learn. Progress will be more certain if we have concrete and limited objectives that can be attained within a reasonable time period.

**What are the plus activities?** If our work is primarily of an executive character, then the plus activities lie in the executive area. If our work is primarily of a professional character, then the plus activities lie in the professional area.

For example, a director of laboratories will

<sup>4</sup> The phrase "plus" activities has been used by others. See John J. Corson, "Make the Time You Need," *Nation's Business*, XLIV (October, 1956), 90-93. The term refers to the nonroutine, creative, developmental, and future-oriented activities that organizational objectives and job descriptions might never list. Examples are research, writing, and personal growth activities that keep individuals and organizations ahead of the crowd.

be primarily concerned with building and maintenance of a research staff that can develop products for commercial use. Any role that the director takes in personally conducting research will be apart from his main task and apart from operating at the highest skill for which he is paid. A highly trained chemist in the laboratory will want to direct his energy toward professional activity, take part in significant research projects, exchange information at professional meetings, and publish his findings insofar as possible. Over any period of time, provided our allegiance remains more professional than administrative, we will judge productivity in terms of our contribution to the profession and will try to hold to a minimum any involvement in committee work, public relations, and so forth.

Executive and professional categories, however, are not always that clear cut; many of us move through one to reach the other. The decision to accept imperfection in areas of past specialization is not always consciously and willingly made. We want to keep a grasp of technical operations so that we will feel secure in providing the coordination that is required, and so that we will know what evaluative questions to ask and how to judge the answers. Further, even though the plus activities of the moment may rest in the professional area, many specialists, including those who have attended executive and pre-executive programs, aspire to positions of broader administrative responsibility.

In addition, considerations in this area usually have both personal and organizational dimensions. Our wants and thoughts concerning the plus activities may not coincide with what the organization appears to require and value. In order to proceed, however, let us suppose that we have answers to these questions. If so, we can use and test them as criteria in the analyses that follow. If not, the identification of objectives and plus activities will be an important aspect of our search.

*What are we now doing with our time?* This is the key to much that follows; and three separate answers may be possible.

One way of answering is to put down what we think we now do. The list should include duties as we know them and perform them (ignore the official list, the job description, and the ideal; emphasis belongs not on what we should do or should be but on what we actually believe we do). The duties should be stated in specific terms with emphasis on verbs so that we can subsequently analyze the categories of decision and action. We might even attempt to write down an estimate of how much time or what percentage of time in a day or a week or a month is spent on each item.

Built into this approach is the assumption that many people do not know how much time they really spend on different activities. Comparison of our estimate with actual performance frequently shows quite a discrepancy. Thus, the objective of arriving at this first answer is simply to pose useful doubts.

Better than jotting down what we think we do is to keep a systematic log for a period of two weeks. The record should be kept long enough to reveal any patterns that may be present; even no pattern at all is a pattern for our purpose. The most rewarding insights will probably be obtained if we can avoid preconceptions, including predetermined classifications.

The information should be complete enough to facilitate subsequent analyses; what we need is a fairly good sample. Failure to record one or two items will not ruin the record, but we must be sure to include small items and minor interruptions along with big ones. Minimum information should include what the activity was, who was involved, and what time was taken; if possible, we should add when the activity began and ended, and why we were involved.

There may be times when we cannot jot down everything as it happens. This brings

us to the third method, which is to have someone else (secretary, assistant, or wife) keep the record. This record can be compared with our record; more than one view may be helpful. Given any of the three methods, preferably the second and/or the third, we now have the raw data.

*How is the time allotted?* The diagnosis so far may bring into focus the self-evident areas of possible improvement. The picture becomes much sharper, however, and therefore more productive when we take the trouble to pin down what time was spent on what items in what sequence.

Sequence should be the first concern. What was done in what sequence in the first hour of each day? That first hour might be a deciding factor in determining what kind of a day we may expect.

Watch especially for days that are broken into bits and pieces. In every change of activity—even the smallest interruption—time is lost. We all know what happens when the telephone rings repeatedly while we are trying to read concentrated material, trying to write a difficult report, or conducting a staff meeting. Further, it is conceivable that we may have to look for instances when we spent too much time on some project, that is, when a change of activity might have renewed alertness and productivity.

Next, we need to classify all the activities that we have listed. These classifications might be decided beforehand; however, more insight will result if the classifications are derived directly from the data. Since we have noted the time consumed in each separate activity, we can easily total the time or the relative portion of time for each category. This allotment should be checked against stated objectives and plus activities.

It is advisable to check the categories against such classifications as executive, professional, special, and routine. Within these, there might exist repetitive as well as non-repetitive activities. What percentage of our total time, for one reason or another, is spent

on activities classed as routine and/or repetitive? We should cut these all we can. What percentage is spent on past specializations, things that we like to do or things that are not too demanding? These should be cut. What portion is spent on activities that will have a pay-off one week to five years away? These we want.

The main questions for this part of the analysis are these: What are we spending time on, how much time are we spending on each category, and, is this the best use of a scarce resource? When the categories prove too broad for searching inquiry, we can return to the more detailed listing of activities. We should be sorting the items into those we must do, and should do, and those that are nice to do. Checking against existing priorities is inherent in this kind of analysis.

*What factors control our time?* This is the final question that has to be answered before we can plan the most effective action. The purpose is to re-examine the way in which our present system of priorities evolved. Why is time spent the way it is?

Chance and habit play an important part in controlling time for many people. Habits that dispose of routine with minimum fuss are desirable. The ability to cut routine to a third or, at most, to a half of one's total time assures greater freedom to deal with the chance activities, crises, and the plus activities. We must, then, be sure that our habits are periodically brought up to date and be sure that we have enough control of our time to deal with the really unpredictable events.

We should question not only what controls our time but, in addition, who controls it and by what means. Analysis of time spent with superiors, subordinates, other people in the line organization, staff people, visitors from other divisions, and outside callers may be quite revealing. Time spent in staff and committee meetings—formal and informal, scheduled and unscheduled—should be questioned. One writer, addressing executives at junior and middle levels, has suggested these priorities: first, time with superiors; second, sched-

uled conferences and outside meetings; third, definite time scheduled with subordinates; and so forth.<sup>5</sup>

#### *Plan the Action*

Concentrated analysis, made under the five previous headings, will provide the basis for establishing new plans for time. In order to carry our analysis through to the point of action, we need to develop answers to these questions: what do the data mean, what can we change, what can others change, what about environment, and, what about follow-up.

*What do the data mean?* Since our aim in this analysis is to achieve better mileage, we should first identify the activities that we associate with better mileage, the objectives that we and our organization want to achieve, and the plus activities that we and our organization value most. These are the items that we want to retain and the yardsticks that aid subsequent interpretations.

Given the data that we have so far, we should ask ourselves to identify the distinguishing activities of our position and the knowledge and skills required for performance, and why each activity must be executed by the person in our position. For each activity, we should question again and again whether it is essential; how it rates in relative importance, priority, and sequence; whether it would remain if we were forced to cut the list in half; whether we do it because of our own or the boss's personal interest or because errors might be embarrassing, or to achieve a pleasant change of pace after some more rigorous or more frustrating activity. Probably certain activities can be ignored altogether with less risk than one might have thought.

The data may mean that we should analyze our own physiology and temperament. Check the sequence and scheduling of activities generally in the organization and those of our

<sup>5</sup> Mary Cushing Niles, *Middle Management* (New York: Harper & Brothers, 1949), pp. 186-215.

own position against what we know to be our own best times for the exercise of different capacities. What are our best times for high degrees of concentration and when can we best isolate protected and productive time for concentration?

*What can we change?* On the surface, it appears easier to change ourselves than to induce changes in others or in the environment. Therefore, we can start with locating changes that we can make on our own without complicated support or approval from others and without redesigning the entire place of work.

During what times or between what activities are we most likely to lose time? What happens to the unexpected bonanza in time when a trip is called off or an appointment is broken? Have we provided for really profitable use of this time?

The importance of delegation, knowing when it can be used most effectively and knowing how to use varying combinations of delegation and control, should be self-evident. Certain psychological and regulatory handicaps might have to be attended to, and certain mutual confidences and skills might have to be nurtured before delegation can really help. However, through this kind of analysis, the feasibility of extending delegation should be clear, provided able assistants exist or can be developed.

At this point, the small things are important too; an aggregation of less important duties, poorly timed or badly handled, can be ruinous. The ways of dealing with in-baskets, correspondence, and briefcases can often be improved. Plant tours, informal visitations, and ceremonials may be overdone or may serve limited purposes. Repeated handling of the same questions or the same papers without disposing of them can become a work habit. Travel can be scheduled so that time in transit and at the hotel provides a retreat for reading and writing. Arrangements for keeping abreast of written material can be improved through a book-and-reading file at work and another at home, both carefully

sorted according to priority and concentration required. Planning, order, and selectivity are the key for all this.

*What can others change?* Our associates can often help us to make better use of time—ours and theirs—if we let them know what they can provide.

Agreements can be worked out with superiors. Artificial, outdated, or legalistic barriers to delegation can frequently be lifted or invalidated by mutual agreement. A joint project in helping each other make more effective use of time can reduce interruptions among superiors and subordinates.

The development of subordinates on the job or any strengthening of their abilities will increase the potential for delegation. Helping them to develop their abilities will help us to develop ours. Do we assist subordinates in planning effective use of their time, effective use of our time, and effective delegation to their subordinates? Do we ask people in what ways we can help them do a better job?

Arrangements with regard to visiting hours and open door policies can be worked out, provided we emphasize when the door is open—at times we can provide fullest attention and cooperation as an accommodation for others. The gentle touch is recommended; a manner that may be interpreted as a closing of the door or as exclusiveness will cause trouble. The real purposes of the open door are to assure aggrieved persons the right of appeal and to assure a freer flow of communication. The spirit of the open door can be maintained if employees know when their superior is accessible, say, after lunch any day.

Implicit in all this is that we and our associates can work out general but not rigid understandings that certain blocks of time will be allocated for certain purposes.

*What about environment?* For the purpose of this analysis, the key issue with regard to environment is control of access. The physical layout and the social structure of the organizational unit in which we work may be

more related to the use of our time than we have realized.

An office that is the first in an executive row or next to that of a major official may invite more callers than duty requires. If secretarial services are provided by several people rather than by one clearly stationed on the line of march to our office, we will meet more lost souls than we should. Control over environmental factors, in the short run, may be limited. But, over any period of time, we must observe the ways in which the people and the objects that surround us actually ease access for some callers and deny it to others. Proper and diplomatic use of environmental factors can lead to improved control of ingress and egress.

*What about follow-up?* The action dictated by our analysis up to this point provides us with a plan something like a budget, with broad categories for time expenditure, perhaps some line items of special importance, and some allowance for contingencies. As we put the plan into operation, we will want to compare actual performance with whatever we budgeted in order to obtain continued improvements. General advice in this area may be meaningless because the exact nature of the best follow-up depends so much on whatever the analysis reveals. We can only return to the fundamental importance of our own motivation.

#### HUMAN CONSIDERATIONS

The human considerations in replanning one's time are often the most complex. There are understandable reasons why managers become overburdened. Some have to do with external pressures; to deny their existence is to be unrealistic, often unfair. Many of the pressures arise, however, out of personal interpretations, feelings, and anxieties—also of understandable character.

In order to make progress, one needs positive as well as negative motivations. We may fear breakdown both through failure to

manage time well and misinterpretation if we are not visibly busy. The dilemma, of course, is that managers are often working at highest managerial levels when they are not visibly busy. So, while we may want to free ourselves *from* certain activities and pressures, we may not make much progress until we plot what we are freeing ourselves *for*.

This means that planning time, like any other planning, involves making some decisions beforehand. When we decide beforehand what we want to accomplish with the new arrangement of time, we will have provided the positive motivations essential to maximum improvement. Saving may provide a useful analogy. Probably the surest way to save is to save before spending. The deadline bills that must be paid will be paid, but until one gets the taste of savings, capital formation, and so forth, saving is a remote abstraction. With a saving goal or a saving necessity, however, habits will change. Likewise, a key factor in rearranging the use of time is establishing a goal clearly enough and tangibly enough, so that we will sacrifice duties that provide a sense of activity and personal accomplishment in order to achieve the new goal.

Therefore, the final point is to stake out what we will spend the recovered time on. Time freed with one hand should be claimed with the other. We should set targets for what we want to accomplish with the reclaimed resource. This must be done, because, as Parkinson fans will recall, "Work expands so as to fill the time available for its completion."<sup>6</sup>

THE ALLOCATION of limited time against competing objectives is a problem that executive and professional people must expect to face. If they are to achieve better mileage for their time, they must, from time to time, engage in analysis of the general type outlined in this article.

<sup>6</sup> C. Northcote Parkinson, *Parkinson's Law* (Boston: Houghton Mifflin Co., 1957), p. 2.

JOHN G. McDONALD

## *Minimizing the Risks of Moving Abroad*

GROWING numbers of American companies are spreading their wings abroad. The roster includes not just small- and medium-size manufacturing companies, but some of the largest and most powerful firms in the country. General Electric Co. is reportedly girding itself for a massive foreign manufacturing foray. "By 1970, some 50 per cent of our profit will come from overseas operations," predicts the chief of a large diversified company. Du Pont, which once restricted production to this continent, is now producing in Holland, Belgium, and Northern Ireland. The Campbell Soup Company has launched a \$28 million assault aimed at capturing a major share of the growing European food market, and I.B.M. World Trade is growing even faster than its ebullient U.S. parent.

The blue-ribbon list goes on and on. Some one thousand American companies have established postwar operations in Europe, most

within the past four years. A recent McGraw-Hill survey indicates that American manufacturing companies (excluding extractive industries) planned to invest 20 per cent more money overseas in 1960 than they did in 1959, and they expect to add another 16 per cent in 1961. The census of private U.S. investments abroad, recently released by the Department of Commerce, shows that during the year of the census (1957) U.S. firms abroad paid wages and salaries of nearly \$7 billion, employed about 3 million people, and spent about \$17 billion for materials and services. This international flow of funds and goods is becoming one of the most important economic forces in the world today.

Companies set up manufacturing facilities abroad for a variety of reasons. Some want to tap the fat profits and enjoy the rapid growth offered by expanding foreign markets. Others may establish foreign bases with an eye to world-wide exports—and re-export to the United States—from a low-cost base.

Not long ago, the stay-at-home competitors

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of these "internationalists" would have been unconcerned with these moves, but things have changed. Today many stay-at-homes see a threat to their home market position and the possibility of being blocked out of increasingly interesting foreign markets. Some companies are already being harassed in their domestic markets by low-cost goods produced abroad by their U.S. rivals (the 1957 census showed imports of \$1 billion from overseas enterprises of U.S. companies). As a reaction to these threats, actual or potential, many companies are hedging their bets by establishing beachheads of their own abroad. Thus for many reasons, some offensive, others defensive, the flood of American companies overseas continues to grow.

Here, based on our own experience and the experience of others, is a report on what these companies find in the way of risks and opportunities, and how they are organizing to minimize these risks.

#### WHAT THEY FIND

Setting up a new production base and marketing organization abroad is far riskier than establishing a new business at home. Manufacture abroad means that large sums of money must be spent for plant and equipment for a long period of time in an alien, often changing environment. Management effort and personnel problems take on a new dimension, and profits can sometimes have a long lead time in a new land.

In his home market, the executive moves with ease and confidence; he knows the ground rules. Distribution patterns, trade terms, and nuances of consumer tastes and preferences, and competitors' strengths and weaknesses are second nature to him; his judgment in this familiar environment is usually sound, since he operates under a set of fairly stable economic and political conditions. But many of the comfortable assumptions that the executive uses at home may not hold true overseas. In some ways, this is to the good. It per-

mits him to view situations with "different eyes" and thus grasp opportunities that others don't see. Drawing from domestic experience, he may spot an early trend for convenience items, packaged foods, or new appliances, or he may see the chance to apply a proven technique in a new situation. But he may also stub his toe. He may assume that foreign consumers react in the American pattern, or he may assume that practices which were successful at home will work abroad for that reason. As a result, both the risks and opportunities resulting from executive action abroad are often greater than they would be at home.

Risk comes in many guises and varies from country to country. General Motors, whose European and Australian subsidiaries are currently booming, shut down an expensive assembly plant in India several years ago. A prime factor in this painful decision was the unforeseen political climate and the effect of governmental control. The Henry J. Kaiser Co. set up an automobile plant in Holland, but found it could not crack the market there; yet its Argentine operation is doing well. One American consumer-goods producer moved too soon; after establishing a plant in Belgium, he found the market wasn't ready for its product. As a result, he has been conducting an expensive holding operation for the past three years. Another example is Chicago Dynamic Industries, which invested about \$100,000 at Shannon's industrial estate in Ireland and, after less than a year, is reported to be selling out and going home. "It was a nice little idea," stated Samuel H. Gensburg, Vice-President, "but it just didn't get off on the right foot."<sup>1</sup> On the other hand, several other firms established at Shannon report they are doing well as tax-exempt new industries.

Most companies have moved abroad too recently to know how well they will do in the long run, but reports are beginning to filter back. Some companies have been eminently

<sup>1</sup>"Shannon Insures Its Future," *Business Week* (July 30, 1960), p. 87.

successful, others have run into trouble, and still others have had both successes and failures in different countries. As these companies learn from experience or the problems of others, more and more executives and specialists will avoid pitfalls, and program their moves overseas effectively. Clearly, long-term success or failure depends on the way a company moves into its overseas adventure. Once a company decides to move and invest abroad, it faces a basic problem: How does it plan its moves to take advantage of obvious opportunities at minimum risk?

### MINIMIZING RISK

#### *Evolution and Take-Off*

The evolution of a domestic company into a functioning world enterprise normally follows four distinct but overlapping stages:

**Stage one** Export-import activity with a minimum of change in management outlook, company organization, or product line

**Stage two** Foreign licensing and the international movement of technical know-how, still with little impact on domestic operations or management outlook

**Stage three** Establishment of overseas operations involving the development of special international skills, substantial international investments in funds and management time, but still with little effect on domestic operations

**Stage four** Emergence as a world enterprise with an integrated global approach encompassing both domestic and overseas operations.

These steps may be taken one at a time, or any one can be bypassed. It is even possible to find a company involved in all four at once. But as a rule, the take-off point for moving abroad occurs when either or both of the last two phases are undertaken. That is the point at which a company begins to gamble serious money on its prospects for becoming a world enterprise.

It is important that a company understand

its position at take-off, for it may well have some built-in obstacles to a successful launching of an overseas manufacturing operation. One company about to enter stage three fortunately identified such an obstacle in its organizational pattern in time to avoid any delays in achieving its goal. At the take-off point, the company had a group of "international" specialists organized in two departments—exporting and licensing—under one international executive. Ironically, the project team responsible for studying the feasibility of moving abroad found most resistance from the place it expected most support—the export and licensing departments. With the export department already feeling the squeeze from competition built up by the license department, it would naturally resist schemes to squeeze its profits further. Similarly, the licensing department was not cooperating since it foresaw some adverse effects on its profits if single subsidiaries were to replace its numerous licensees in various countries. To surmount this obstacle, changes had to be made in organization and profit responsibility.

Earlier licensing agreements or exclusive distribution rights can also seriously cripple moves overseas. One manufacturer of marine equipment is doing fairly well in Europe, but is encountering tough competition from a German company, which he "educated" with patent exchanges and a licensing agreement several years ago. Many companies that would now like to move abroad are locked out of certain countries by exclusive licensing agreements that seemed wise, low-risk, profitable decisions just a few years ago.

Where top management is alert to some of these environmental and strategic problems, it can develop sound organizational plans and safeguards in advance of a move abroad. Step-by-step international experience can become a major asset if it gives a company this foresight. But if top management does not plan its business ahead, existing international activities and agreements can be a major obstacle.

### *Choice of Approach*

Some companies have been content to play their moves abroad without much planning and have done well; some have been disappointed. Other companies have evolved standard and, in some cases, fairly sophisticated approaches.

***The Random Approach.***—The decision to move into a given country at any one time may be based on virtually chance factors. A company president or other officer has been to the country and likes it or he may know businessmen there. Many such moves are made in response to an invitation. For instance, a successful electronic-relay company, with little interest in foreign adventures, was recently approached by a European company about setting up a joint venture. Intrigued by the possibility, the American company joined the enterprise and decided other moves would be made "after we've experimented a bit." A company with a patented line was recently approached by a Wall Street finance group with this suggestion: "We have been contacted by a company who is convinced there's real opportunity for your product in Europe. If you are ever interested in moving, let us know."

An increasing number of companies have gone abroad recently in response to just such random opportunities. Reasons given include "our competitors have done so," or "our suppliers are moving," or "we've been offered an interesting opportunity, but it won't be available for long."

Sometimes this random and essentially "one-shot" approach works quite well. Dozens of companies that are now successfully established overseas virtually tumbled into their present spots. But, as the following examples show, the inherent risks are numerous.

Some companies have experimented with moving idle production equipment and setting up shop in another country. Kaiser seemed to do so quite successfully when it moved its automobile plant to Argentina. Certainly there is a world-wide market for much secondhand

U.S. manufacturing equipment, but setting up a subsidiary with an obsolete plant can backfire. Local companies are equipping themselves with the latest devices and can sometimes outproduce and outprice a U.S. subsidiary saddled with old machinery. This is happening in electronics, where rising European manufacturers are using the latest automated equipment.

One midwestern heavy-equipment manufacturer, spotting what looked like a fine opportunity to enter the European market, bought up a good-sized French company in the same field. The French concern looked good on paper, but it was actually a high-cost operation on the verge of losing important markets. The Americans apparently looked at past performance, not at future trends. They took over just as the new property started down the roller coaster; as a result, they have poured in over a million dollars trying to salvage it.

An American hospital-equipment firm without experience in Europe was approached by a small Dutch manufacturer. By bidding for U.S. military supply contracts, the Dutch company had been given plans and specifications for special equipment identical to that made by the American company, and was producing this equipment—with improvements. The Dutchman asked the Americans whether they were interested in a joint venture with his aggressive little company in Europe. The Americans were impressed by the man; they were not only interested in the idea of growth abroad, but were anxious to avoid further competition in a saturated home market. They took a minority interest in the Dutch venture—and watched their cash investment sink out of sight. It turned out that the European company, which had been a very low-cost producer before the U.S. investment, used the added capital to convert from a "garage operation" to a plant operation; the company thereby became a high-cost producer in a beautiful home, but remained incapable of breaking even on its low sales volume. With little likeli-

hood of gaining more volume in a hurry, the joint venture developed an insatiable demand for dollars. In addition, the joint-venture agreement prevented the American company, now wiser, from tackling the European market on its own.

*Country-by-Country Approach.*—Random approaches have sometimes paid off, but their often fatal drawback is the absence of any systematic analysis of alternatives. As companies realize this, a number who have already made some moves overseas have evolved a more systematic approach.

An overseas veteran has a standard approach for analyzing the feasibility of manufacturing in a specified country. Basically, this involves four steps taken in the order listed:

1 An academic market study is conducted at the home office and combined with rule-of-thumb "guesstimates" on costs and profitability.

2 If the investment looks profitable, a marketing man conducts an on-the-spot investigation. In addition to studying the marketing aspects, he obtains answers to questionnaires supplied by the manufacturing and financial people. This results in a "first approximation" or feasibility report.

3 Final on-the-spot confirmation study by a small task force (including a senior member of management) results in the "second and final approximation" report and, later, actual investment, postponement, or rejection of a project.

4 Last comes a long-term, post-mortem analysis of actual results, which are compared with estimated results with a feedback to improve the original rule-of-thumb technique.

Step 1 has two unique features; it gives top management a quick reading of the size and nature of the investment required and the possible financial returns, and also provides top management with an estimate of the budget required to complete the detailed investigation in terms of time, men, and money. All this is done on the basis of a quick scanning of

academic or trade source material available in the U.S. and of the company's past international experience and intelligence, coupled with some working rules of thumb developed within the company.

This type of approach—a study of key information at home followed by on-the-spot investigation of special factors in the target country—is becoming common. It is useful and virtually a textbook approach. Unfortunately, it can be critically behind the times. Companies confidently acting on the assumptions and findings of a method for locating and isolating national markets go astray. The reason is that markets abroad not only differ from one another but are undergoing drastic change. No country is so self-sufficient and advanced that it is not affected by trends in world trade; therefore, the optimum insular decision for one country might be fatal in view of capabilities and economic trends in other countries. For instance, with economic integration under way in Europe's Common Market, seemingly prosperous companies that are not likely to withstand the new competition are being hawked to unwary Americans.

Moreover, the best operational decision in a country does not necessarily result in the best decision for the area as a whole. If one looks at each country individually, for example, it may seem perfectly sensible to establish manufacturing plants in Italy, Germany, and France; but over the long term, a better solution might be to build one large plant.

#### *A New Approach: Global Thinking*

A few companies, some American and some European, are building new approaches that minimize the risks of moving abroad. Generally, these approaches take cognizance of one of the fundamentals in planning—understanding the ultimate goal—and come under the term "global planning."

Global planning has a number of characteristics. First, it assumes that the ultimate objective of any company taking the first move

overseas is to make this move in such a way that it may expand at a later date without encountering any obstacles created by its first move. Second, it means that the chief executive is willing to extend the scope of his responsibility to answer the question of where in the world he should invest his company's time, man power, and funds for the best long-term interests of his stockholders.

Here is a step-by-step account of how one major company went about global planning.

First, it appointed a select executive committee for the purpose of formulating the company's world-wide policies and strategic plans. This global planning committee began by making decisions to:

1 Indoctrinate all members of corporate management in the principles of a world enterprise so that they would all know the company's ultimate goal

2 Concentrate the company's initial expansion in the developed countries

3 Consider the world as four basic areas: North America, South America, Europe (and Africa), and the Far East

4 Assign priority to study of the whole European area—since Europe represents the bulk of the industrial free world outside the U.S.—to identify existing opportunities and how they could capitalize on them

5 Place a moratorium on all foreign licensing and joint-venture opportunities throughout the world until this study was complete.

Then, one of the senior executives from the global planning committee was named vice-president for Europe and was assigned the task of developing a strategy for the company's entry into Europe. After getting a set of ground rules approved (confirmation that the company seriously wanted to move, the amount of money the company was willing to invest, whether the company was willing to bring European products into the United States, and so forth), he selected a task force to lay out a plan of action and compile a budget.

The task force laid out the plan of action in three phases. During *phase one*, the commit-

tee examined the export and licensing agreements to see if any exclusive selling or manufacturing rights had been granted that would prevent the company from operating in certain European countries. Also, countries with potential markets were identified from data available in the U.S., and plans were laid for European fieldwork. This preparatory work included developing interview guides (standardized to facilitate later consolidation of individual interviewers' results) based on the market indicators used in the United States; studying the conditions existing at the various stages of maturity in the industry so that the relative stage of development of the industry in Europe could be identified; determining key factors for success for various products so that a check could be made in Europe as to whether the same factors apply; and, finally, developing an itinerary in Europe based on the perspective obtained during the preparatory stage.

*Phase two* involved fact finding in Europe. The objectives were to review the general economic and political background for Europe as a whole and then for each major country; to perform an economic study of the company's industry in Europe as a whole, and then a more detailed study of the countries identified with major investments in this industry; and to analyze how well the company's strength and position had already been established in the area through previous export and licensing activities.

The economic analysis of the firm's industry in Europe showed that the countries producing this equipment could be divided into those of major importance and those of minor importance. The major producers—England, West Germany, France, and Italy (Holland was disregarded since its importance was based on only one large international company)—had large local markets. The major producers were also the major suppliers for the minor producers and the nonproducing countries. The industry in each of the four major producer countries was then studied in depth, and two

representative countries in the minor producer group were examined to see what factors were essential for success in such a market.

The economic analysis of the industry in each of the four major producer countries included growth trends and potential markets for local production, exports, and imports, plus the structure, relative importance, and trends of the major sectors. It also included the relative importance and trends in product groups in each sector and in their end-user industries, as well as key factors for success—importance of local service and installation facilities, and the need for a corporate image of an indigenous company. The study looked at any obstacles to entry and general requirements for entry into the field—large investment, unique patented product, and long-established engineering reputation.

The stage was now set for *phase three*. This involved development of a long-term operational strategy to enable the company to capitalize on the opportunities defined in the fact-finding phase and to gauge the likely effect of economic interaction between the countries. Separate strategies were developed for the major-producer countries and minor-producer countries. Major-producer countries, where there was significant local production, demanded a strategy involving the establishment or acquisition of local production facilities. The strategy for the nonproducer countries, which offered no sizable local markets, was to rely on imports from the U.S. or from European sources.

Another part of phase three was development of a statutory plan, once the operational strategy and organization had been defined. The operational strategy defined what had to be done, where companies had to be set up, and where distribution or licensing had to be performed. With this done, it was possible to mold a statutory organization to provide the best ownership links with the most effective cash flow. In this case, it consisted of setting up a statutory headquarters in Switzerland, with the ownership of various subsidiaries

linked so that the company could capitalize on tax and other statutory advantages. Since it was realized that tax laws and regulations are subject to constant change, the statutory plans were recognized as being temporary; actions that could endanger flexibility were avoided. The statutory and the operational organizations remained separate and distinct.

Plans for establishing the European operations also involved company-wide changes in, for example, organization patterns, management and information control systems, and procedures for evaluating all new investment proposals, so that in all major company deliberations Europe was always considered as a possible alternative. Once these changes were agreed upon—and only then—positive moves were made to establish new activities abroad.

Some of the major advantages of the new approach based on global planning are:

Setting long-range objectives and developing a long-term strategy before moving abroad enables all the interim moves to be coordinated so that they do not cancel each other.

Investigating a whole area in depth enables action to be taken in as many countries as desired, so that later integration can be achieved with a minimum of expensive overlapping and duplication.

Developing statutory plans ahead of time on an area basis enables country-by-country decisions to be made so that later shifts in cash flow can be made without serious consequences (for example, capital gains tax on transfer of appreciated equity ownership).

In effect, the global approach has provided the essential key to facilitate long-range planning in the internationalization of American business.

*Words of Warning.*—Like any technique, the approach based on global planning has its dangers; these stem mainly from some form of misapplication.

One case of superficial application occurred when a billion dollar corporation, with a few

haphazardly placed overseas activities, decided to use the global planning technique to assess the feasibility of its conversion to a world enterprise. Its international division in New York was very powerful politically and, as a peace offering, was allowed to retain all existing remote-control powers over foreign subsidiaries. In other words, the company went through the motions of appointing area managers for the various regions of the world, but they were virtually powerless since every decision still had to be referred back to New York. Moreover, the new area manager for Europe was not provided with a budget to perform a fact-finding study that would enable him to reappraise and coordinate the company's existing activities, which were spread thinly across Europe. As a result, it was not long before he found that many of the company's subsidiaries were launching new products just because "New York had advised them to do so" and not because they were appropriate for Europe. In effect, therefore, the company had remained domestically oriented while giving lip service to global planning and concepts of area management.

Another company ostensibly adopted global planning but continued to allow its domestic divisions to encourage visits from foreign buyers of their products. As a result, the man assigned to set up operations in the European area was constantly being sidetracked in order to chase down "special situations" for the strong domestic divisions.

Cases of misapplication of global planning also result when a company succumbs to "international fever" or tries to move too fast. This reportedly happened in one midwestern consumer company. Shortly after a special team had been selected to set up operations in Europe, the team's attractive itinerary caught the eyes of other firm members. Letters from hitherto unheard of potential distributors

soon began reaching the company from Asia and South America—each letter suggesting the company send a man to look over the fabulous opportunities in their particular country. As it turned out, random opportunities existed in Hong Kong and Brazil. In effect, the global planning technique had been applied partially—that is, in Europe—while plans for the rest of the world resulted from the old random approach. This resulted in a conflict of interest. One of the European companies that had been selected for acquisition had subsidiaries in the Far East that competed with a property the international division was negotiating for in Hong Kong.

IT IS unfortunate, but true, that some corporate moves overseas are motivated more than a little by the fad to go abroad. Admittedly, real pressures to move overseas are mounting, but the consequences of poor analysis and false moves in this rapidly changing world can be painful. Approaches based on short-term thinking are not sufficient. Any move overseas must be looked upon as an integral part of a clearly defined long-range goal.

There is no magic formula for successful global planning, but companies that do it well do possess and make use of one open secret. This is the understanding that only the company president or chief executive officer can successfully implement a series of moves abroad. Only a company president can effectively persuade a board of directors of the value of a move abroad. Only a company president can effectively control and channel the inevitable rivalries and seeming contradictions in policy that simultaneous operation in several countries creates. Only a company president can successfully create the new kinds of marketing and financial controls needed for the new kind of company he will head if he creates a world enterprise.

ROCCO CARZO, JR.

## ORGANIZATIONAL Realities

ORGANIZING is easy—at least, that is what one is led to believe from traditional writings on the subject. Traditional theory prescribes that organization be built around the work to be done. For maximum efficiency, this theory specifies that the work be divided into simple, routine, and repetitive tasks. These tasks or jobs should then be grouped according to similar work characteristics and arranged in an organization structure in which an executive has a limited number of subordinates reporting directly to him. Also, every member of the organization should be accountable to only one boss. Personnel assignments are to be made on the basis of the requirements of the job and each individual's ability to do the work.

These are not doctrinaire beliefs reserved for academic minds. In many quarters, they have gained enough stature to be called

“principles” of management and/or organization, and they are also widely accepted in practice. Administrators and academicians will recognize the traditional organization pyramids that are based on these seemingly reasonable propositions. As an example, one administrator recommends the following for a “sound, flexible, and dynamic” organizational structure.<sup>1</sup>

1 Determine the objectives and the policies, programs, plans, and schedules that will best achieve those objectives for the company as a whole and, in turn, for each component of the business.

2 Determine the work to be done to achieve those objectives under such guiding policies.

3 Divide and classify or group related work into a simple, logical, understandable, and comprehensive organizational structure.

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<sup>1</sup>Ralph J. Cordiner, *New Frontiers for Professional Managers* (New York: McGraw-Hill Book Company, Inc., 1956), pp. 52-53.

- 4 Assign essential work clearly and definitely to the various components and positions.
- 5 Determine the requirements and qualifications of personnel to occupy such positions.
- 6 Staff the organization with persons who meet these qualifications.
- 7 Establish methods and procedures that will help to achieve the objectives of the organization.

Now, however, there is enough research evidence to raise some significant doubts about the validity of prevailing organizational theories. Traditional theory is based on logical division of work. More recent social research is concerned with organizational arrangements that will facilitate the joining of human efforts. Realistic organizational theory must be based on the real behavior of real people in real organizations, that is, the ways in which people join their efforts in any kind of cooperative system. The real test of organizational theory is not abstract logic based on work but on arrangements that facilitate effective cooperative relationships. These relationships are the key to productivity. It is the purpose of this article to explain and illustrate the lack of concern for these realities in the traditional approach. In addition, some suggestions will be made for realistic organization.

#### TRADITION VS. RESEARCH

##### *Specialization*

The advantages of specialization are primarily economic. Both economists and formal organization theorists emphasize that greater efficiency and productivity are achieved through division of work. Adam Smith, in his *Wealth of Nations*, illustrated this thinking with his description of a pin factory. By dividing the work into specialized tasks, the factory could produce thousands of pins per man per day. But if the complete manufacturing process were left to individual workmen, each might produce only a few dozen per day. F. W. Tay-

lor went a step further by proposing that management jobs be specialized so that "each man from the assistant superintendent down shall have as few functions as possible to perform. If practicable, the work of each man in the management should be confined to the performance of a single leading function."<sup>2</sup>

The approach that divides the work into simple, routine, and repetitive tasks utilizes *minimum* skills and abilities. James Worthy has attacked this approach as follows:

"The gravest weakness [of specialization] was the failure to recognize and utilize properly management's most valuable resource: the complex and multiple capacities of people. On the contrary, the scientific managers deliberately sought to utilize as narrow a band of personality and as narrow a range of ability as ingenuity could devise. The process has been fantastically wasteful for industry and society."<sup>3</sup>

Recently, the effects of specialization on employee attitudes have received more study. For example, Chris Argyris feels that congruency is lacking between the needs of healthy individuals and the demands of the formal organization. In his research of a seemingly healthy manufacturing operation that had very low indexes of employee turnover, absenteeism, and grievances, Argyris found the employees to be apathetic and indifferent toward management and the organization. He has said that the formal organization, with its emphasis on task specialization, utilizes a narrow range of skills and minimum abilities, and tends to create needs that are not characteristic of healthy, mature individuals.

The administrator and the social scientist might argue that these criticisms involve value judgments and are not really their concern. They may ask: Does it matter if human resources are not fully utilized; and does it matter that employees are apathetic and indif-

<sup>2</sup> Frederick W. Taylor, *Scientific Management* (New York: Harper & Brothers, 1941), p. 99.

<sup>3</sup> James C. Worthy, *Big Business and Free Man* (New York: Harper & Brothers, 1959), pp. 69-70.

ferent, as long as organization objectives are accomplished efficiently or as long as profits are maximized in the case of a business enterprise? The administrator may argue further that he is forced to adopt specialization because it promises the greatest efficiency and productivity. The social scientist may point out that, as a scientist, he cannot consider values; his concern must be limited to means and not ends.

Both administrators and social scientists would accept the position, however, that greater utilization of the physical and mental capabilities of the human resource may increase the scope of organizational accomplishment. They would also accept the argument that apathy and indifference may have long-run implications for the efficient attainment of goals. For example, Argyris predicts that the dissatisfaction of employees manifested by apathy and indifference will result in demands for increased wages; these increases will be viewed "not as rewards for production but as management's moral obligation for placing the employees in the kind of working world where frustration, failure, and conflict are continuously being experienced." According to this thesis, wage costs will tend to rise regardless of productivity changes. The employee in this situation views the increase as compensation for continued frustration.

Perhaps these realities imply even broader organizational objectives than those of maximum efficiency, productivity, and profits. The narrower view of organizations in terms of material achievements, such as profits as the prime goal (and some say the only goal) of business institutions, has permeated the classical as well as the popular and current versions of organized activity. The materialistic goals attributed to organizations are abstractions and serve only to facilitate simplified descriptions of organization and group behavior. These descriptions are usually devoid of human and moral values. Such values are important not only as ends in themselves but also for understanding human behavior. Over-simplification with regard to the multiple ob-

jectives of organizations and the complex motivations of individuals will not lead to realistic organizational structure. Worthy has decried the prevailing theories of business organization and has called for a new theory that more adequately reflects and explains reality:

"Such a theory will recognize that business is a social organ with functions far beyond the mere promotion of material prosperity, and with motivations far broader than simple self-interest. It will give consideration to the pervasive influence of religious forces in American life, the profound consequences of the rise of the large, publicly owned corporation, and certain unique features of American historical development. It will, in other words, shake off outmoded economic doctrine and take a fresh look at the truth about today's business."<sup>4</sup>

This broader view of organizational goals implies that the administrator has responsibilities far beyond those dictated by material achievements. The fragmentation and routinization of work to the point where it loses significance has dire implications, not only for organizations that live by this action, but also for society in general. The organization may suffer because the rewards for submissive compliance produce apathy, indifference, noninvolvement, and alienation on the part of group members. They become highly dependent and incapable of solving problems and making decisions. The organization may become rigid and its members unwilling to accept and adapt to changes necessary for growth and changing socio-economic conditions. Furthermore, a democracy built on a foundation of free choice will suffer because the dependency rewarded and fostered in organizations may carry over into everyday life.

#### *Grouping*

After the work has been divided into specialized tasks, the advocates of formal organization prescribe the grouping of these tasks ac-

<sup>4</sup> *Big Business and Free Man*, pp. 31-32.

cording to similar work characteristics. This is called the principle of "functional homogeneity." According to one definition, the principle ". . . says that organizational effectiveness is increased and the cost of executive and operative labor is reduced when duties are grouped in accordance with functional similarities. The members of a group are able to *coordinate* and *cooperate* with one another directly when they are dealing with similar problems."<sup>5</sup>

The grouping of persons according to similarities in their work may be contrary to the natural development of human organization. Early researchers found that people tend naturally to organize on a basis other than the technical requirements of work. They organize in terms of sentiments, social customs, codes of behavior, status, friendships, and cliques. The significance of these findings lies in the researchers' conclusions that cooperation depends upon the natural relationships of informal organization and not necessarily on groupings based on work arrangements and/or economic incentives.

The simplicity and rationale of formal structuring is open to further criticism when one examines another prescription for organizing. The principle of "span of control" stipulates that the number of subordinates supervised directly by any one executive be limited. Some eminent students of administration have gone so far as to specify how many subordinates a superior can effectively manage. Urwick, for example, has said, "No superior can supervise directly the work of more than five or, at the most, six subordinates *whose work interlocks*."<sup>6</sup> Two of the most outstanding criticisms (many have been made) of the span of con-

trol are those of Herbert A. Simon and Waino W. Suojanen. Simon points out that there is a basic contradiction between this principle and the principle that there should be as few levels as possible in an organization. By restricting or limiting the span of control, an organization—especially one that is growing—must increase the number of scalar levels and the administrative distance between individuals. This development inevitably produces excessive red tape and waste of time and effort. Obviously, adherence to the principle of span of control conflicts with the principle that requires a minimum number of organizational levels. Suojanen states:

"If both principles are actually applicable to the large organization, then it must follow that many large government agencies and business corporations are less efficient than their smaller counterparts. However, large corporations not only continue to grow in size but also comparisons of various sizes of corporations are not convincing as to the superiority of smaller, as opposed to larger corporations."<sup>7</sup>

While Urwick's argument for the span-of-control concept is based on those situations where the work of subordinates interlocks, Suojanen offers this very reason as an explanation for the success of large organizations. Common purpose, willingness to cooperate, and coordinated action are characteristics of the executive unit. According to Suojanen, the ease of communication, the informality of relationships, and the personal satisfactions gained in association actually reduce rather than increase the number of relationships and the demands made on the superior.

If this is not enough to raise doubts about the span-of-control doctrine, one can consider the research done at the Institute for Social Research, University of Michigan. One of the researchers there has concluded that an or-

<sup>5</sup> Ralph C. Davis, *Industrial Organization and Management* (New York: Harper & Brothers, 1957), p. 70. The emphasis is mine.

<sup>6</sup> Lydall F. Urwick, "The Manager's Span of Control" *Harvard Business Review*, XXXIV (May-June, 1956), 41.

<sup>7</sup> Waino W. Suojanen, "The Span of Control—Fact or Fable," *Advanced Management*, XX (November, 1955), 5.

ganization will function best and will achieve the highest motivation when the people in the organization hold overlapping group memberships.<sup>8</sup> The very characteristic (interlocking relationships) that seems to make the span of control operative is in reality a necessity for cooperative and coordinated effort.

*Effects of Interaction.*—Evidence indicates that an organization initially framed according to work groupings will eventually function in a manner that parallels the natural social tendencies and personality characteristics of the persons in it.

In laboratory research undertaken by the author (the results have not yet been published), an attempt is being made to predict organizational success on the basis of the composition and interaction of group members. We have seen organizations, initially departmentalized according to similarities in work, actually operate under different systems. The new systems were based on the personalities and interaction of group members. In another study, where departments were established on the basis of work similarities and authority was delegated on the basis of work performance, researchers found that a system of relations had developed that was quite distinct from the formal organization. Furthermore, they suggest that difficulties of industrial co-operation could be avoided if organization would adapt the formal organization to the real relationships that develop over a period of time.<sup>9</sup>

<sup>8</sup> Rensis Likert, "A Motivational Approach to a Modified Theory of Organization and Management," in Mason Haire, ed., *Modern Organization Theory* (New York: John Wiley & Sons, Inc., 1959), pp. 184-217.

<sup>9</sup> Conrad M. Arensburg and Douglas McGregor, "Determination of Morale in an Industrial Company," *Applied Anthropology*, I (January-March, 1942), 12-34. In a more recent study, Melville Dalton, *Men Who Manage* (New York: John Wiley & Sons, Inc., 1959), Chapter 3, the author found that "real" or "actual" organization and authority differed from prescribed or formal organization and authority.

### Separation of Line and Staff

Another area where reality differs from theoretical prescriptions is the traditional separation of line (command) and staff (advisory) authority. According to traditional theory, staff departments are recommended for assisting line executives in work that requires technical knowledge and detailed attention. While the staff is supposed to remain advisory, it usually develops into a line capacity with both the higher and lower elements of the organizational hierarchy. Staff specialists become "experts" in their specialty and top management officials rely on them for "authoritative" advice. As lower management officials realize that staff recommendations are backed by top management, a line of command is established that covers a particular aspect of the work—in addition to general supervision of the line.

The development of this arrangement serves to obviate the neat separation of line and staff. Also, there is reason to question whether the unity-of-command doctrine (one boss) really operates in practice. The acceptance of staff recommendations and suggestions by lower management officials as authoritative and representative of the views of higher management creates a much more complicated organization than that portrayed by the simple line-and-staff (unity-of-command) type of structure.

The line-and-staff type of structure seems to suffer from some false assumptions: (1) staff specialists are able and willing to operate without formal authority, and (2) their advice, suggestions, and recommendations will readily be accepted and applied by lower line officials. Under the true line-and-staff arrangement as it works out in practice, the staff officer finds he has little power. His advice may go unheeded and unheralded because he has no authority to implement his decisions in the organization. The lower line officers may resent and reject staff advice because it threatens the sacred position of the line. Melville Dalton, after a study of three industrial plants,

concluded that line officers fear staff innovations for a number of reasons.

"In view of their longer experience, presumably intimate knowledge of the work, and their greater remuneration, they fear being 'shown up' before their line superiors for not having thought of the processual refinements themselves. They fear that changes in methods may bring personnel changes . . . and quite possibly reduce their area of authority. Finally, changes in techniques may expose forbidden practices and departmental inefficiency."<sup>10</sup>

These frustrations lead to a power struggle. The staff officer seeks more authority by reporting his frustrations and criticisms of line operations to higher line officials. Evidence indicates that staff officers, by virtue of their specialized knowledge, their continual contact with top management, and better education, are able to gain from top management the necessary functional authority over line operations. Some would bemoan this development because it violates the principle of unity of command and causes the lower line officials no end of confusion. However, as explained earlier, the overlapping and the various relationships are the basic ingredients for co-operation and coordination. Thus they should be encouraged, not circumscribed by the contrivances of those who draw organization charts.

#### *Motivation*

The doctrine of self-interest has long prevailed in traditional theory as well as in practice. The self-interest doctrine is illustrated in one of Adam Smith's basic assumptions: Every individual is continually exerting himself to discover the most advantageous employment for whatever capital he can command. It does not take much study to realize that this same

<sup>10</sup> Melville Dalton, "Conflicts Between Staff and Line Management Officers," *American Sociological Review*, XV (June, 1950), 349. Also see *Men Who Manage*, Chapter 4.

doctrine still prevails. As an example, note the view of the president of one of the world's largest corporations: "Of all the motivations to which the human mechanism responds, none has proved so powerful as that of financial gain . . . self enrichment is a dream which must rank with the most compelling forces in shaping the destinies of the human race."<sup>11</sup>

While the concept of self-interest based on financial reward is important in explaining human behavior, it presents an incomplete and inadequate picture of human needs. It says nothing of the desire to feel important, to be respected, and to have prestige. Of even greater significance for the study of organizations is the basic human desire to associate, to belong, or to be accepted as a member of a group. This need far exceeds monetary enrichment as a factor in motivating human behavior. Elton Mayo has said, "The desire to stand well with one's fellows, the so-called human instinct of association, easily outweighs the merely individual interest and the logical reasoning upon which so many spurious principles of management are based."<sup>12</sup> He concluded that "If one observes either industrial workers or university students with sufficient care and continuity, one finds that the proportionate number actuated by motives of *self-interest logically elaborated* is exceedingly small. They have relapsed upon self-interest when social association has failed them."

The self-interest thesis falls down in another important respect. It was stated earlier that people organize naturally on a basis other than the technical requirements of work. This organization has been called the social structure or the informal organization. By satisfying men's basic needs for association, friend-

<sup>11</sup> Crawford H. Greenewalt, *The Uncommon Man* (New York: McGraw-Hill Book Company, Inc., 1959), pp. 37-38.

<sup>12</sup> Elton Mayo, *The Social Problems of an Industrial Civilization* (Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1945). This and the following quotation are from p. 43.

ship, and belonging, it provides the setting that makes them willing to cooperate. Furthermore, individual behavior is influenced by the customs, traditions, and pressures of the group. Thus, individual interests and desires become subordinated to those of the social organization.

In this respect, one is reminded of the Coch and French experiments, which dealt with the problem of employee resistance to change at the Harwood Manufacturing Corporation.<sup>13</sup> The company had tried to solve this problem with monetary allowances for transfers. It would seem from the self-interest doctrine that economic incentives such as a transfer bonus should create acceptance toward job changes and attitudes favorable to relearning after transfer. On the contrary, the researchers found the general attitudes toward job changes markedly negative. Analysis of the relearning curves of several hundred experienced operators, rating standard or better prior to change, showed that 38 per cent of the operators recovered to the standard unit rating; the other 62 per cent either became chronically substandard operators or quit during the relearning period.

Four different groups were studied. One group was merely told of planned changes; a second group was allowed to participate through representation in designing changes; and the two remaining groups participated fully. The researchers found that the total participation groups not only returned to the previous production rate faster than the other groups, but showed sustained progress toward a higher rate. Coch and French concluded that resistance to change in methods of work can be overcome by stimulating group participation in planning the changes.

This study dramatizes the significance of factors other than financial gain in motivating human behavior. First of all, the researchers observed that work standards, informally set

by the groups, were important in determining output levels before and after the change. The nonparticipation group seemed to be governed by a standard set before the change, while the two total-participation groups were governed by a standard set when competition developed between them. However, it is important to note the authors' observation that a major determinant of the strength of these standards was probably the cohesiveness of the group. The power of the group over the members to increase or decrease productivity seemed to depend upon the amount of participation.

Secondly, changes in the social system that would be produced by technical or work changes may cause resistance to change. For example, the researchers indicated that employees would resist change because of the possibility of failure on the new job and a loss of status in the eyes of fellow employees. Furthermore, employees may resist because they are reluctant to leave friends or break social ties and are uncertain about being accepted in a new and different social system.

Thirdly, and most important for overcoming resistance and motivating human behavior, is the very nature of participation. Participation requires interaction, association, and involvement; as noted earlier, these are essential for cooperative effort.

*Comparison and Evaluation.*—The self-interest doctrine has prompted another organizational practice that is believed to stimulate greater productivity. This is the arrangement of individuals in a manner that permits their performance to be compared and evaluated. Rating and reward are based on how one individual compares to another doing similar work. Control is supposed to be easier because the organization has built-in standards for comparison and evaluation. Furthermore, it is believed that individuals will compete when they learn that they are being compared, and greater productivity will result.

Does competition increase production? Perhaps a more important first question is: Does

<sup>13</sup> Lester Coch and John R. P. French, Jr., "Overcoming Resistance to Change," *Human Relations*, I (August, 1948), 512-32.

competition stimulate cooperation? Competition is characterized by rivalry; one organization member strives against another for an objective of which he will be the principal beneficiary. Cooperation, on the other hand, is characterized by collaborative behavior; group members strive together for the attainment of a goal that is to be shared equally by each participating individual or unit. Cooperation, therefore, suppresses individual drives and goals so that common group objectives may be attained. An organization that promotes competition among its members will not have cooperation; it will have conflict. Group members have little reason to act jointly or collaborate with those against whom they are being measured or compared, or with whom they are competing.

Moreover, evidence indicates that a group will be more productive when its members are cooperative rather than competitive. Morton Deutsch, in an experiment designed to study the behavior of different groups (some cooperative, others competitive), found greater productivity among the cooperative groups.<sup>14</sup> Also, he found that the productivity was of a higher quality; these groups produced more fruitful ideas and showed more insight and understanding of problems. Measurement and reward of individual performance in the cooperative groups were made on the basis of group achievement. In this situation, each member received the same reward. Each member in the competitive groups was rated and rewarded on the basis of comparison with the efforts of the members in his group. In this situation, the reward each member received was different and was determined by his relative contribution to the solution of the problem with which the group was confronted. In contrast, the emphasis on group behavior in the cooperative groups produced

the motivation, cooperation, and coordination that is necessary for the successful achievement of organization objectives.

*Decentralization.* — Decentralization and "management by objectives" have often been offered by administrators and theorists as the best organizational arrangement for overcoming the suppressive aspects of a large organization while providing for the greatest motivation. Decentralization, as defined by its advocates, gives maximum authority and responsibility to the manager of each decentralized unit. Control by top management is exercised primarily by measuring end results and comparing performance with predetermined standards and the performance of other units. Once these measurements have been defined and applied, they are supposed to provide motivation. They are also used by top management as a basis for giving rewards such as promotions and bonuses. This practice may not only emphasize the wrong things in cooperative behavior, as explained earlier, but there is the possibility that measurements based on end results, such as earnings, production, costs, and sales, will encourage managers of decentralized units to adopt a pressure-oriented management. In other words, they may exercise pressure on the organization to meet the end results expected, while ignoring the quality of the human organization.

From a number of research studies, Rensis Likert has found that pressure-oriented supervision can achieve impressive short-run results. He reports that:

" . . . putting pressure on a well-established organization to produce can yield substantial and immediate increases in productivity. This increase is obtained, however, at a cost to the human assets of the organization. In the company we studied, for example, the cost was clear: hostilities increased, there was greater reliance upon authority, loyalties declined, and motivations to produce decreased while motivations to restrict production increased. In other words, the quality of

<sup>14</sup> Morton Deutsch, "A Theory of Co-operation and Competition," *Human Relations*, II (April, 1949), 129-52, and "An Experimental Study of the Effects of Co-operation and Competition Upon Group Process," *Human Relations*, II (July, 1949), 199-231.

the human organization deteriorated as a functioning social system."<sup>15</sup>

On the other hand, he has found that managers who are employee-centered and who support their subordinates will foster team spirit, greater productivity, and better employee satisfaction than pressure-oriented or production-centered managers.

Decentralization can, of course, provide the means for maximum utilization and development of the human resource as well as the basis for cooperative behavior. In contrast to organizations where there are many levels of supervision and elaborate systems of control, Worthy found that the flat type of structure with maximum decentralization develops self-reliance and initiative, and more fully utilizes individual capacities. At Sears, Roebuck and Co., for example, the typical store manager has forty-odd department managers reporting directly to him (thus violating the traditional limitations of the span-of-control doctrine), and has no alternative but to delegate decision-making authority to subordinates. When managers of departments were asked to manage, they learned to manage. Having to rely heavily on department managers, store managers at Sears took greater care in the selection, placement, and development of subordinates. Furthermore, Worthy says:

"This pattern of administration not only gets today's job done better, but permits the individual to grow and develop in a way that is impossible in more centralized systems. Furthermore, it contributes strongly to morale because employees work in an atmosphere of relative freedom from oppressive supervision and have a sense of individual importance and personal responsibility which other types of arrangements often deny them."<sup>16</sup>

<sup>15</sup> Rensis Likert, "Measuring Organizational Performance," *Harvard Business Review*, XXXVI (March-April, 1958), 48.

<sup>16</sup> James C. Worthy, "Organizational Structure and Employee Morale," *American Sociological Review*, XV (April, 1950), 178. Worthy also observes that not all individuals can function effectively in this type of arrangement and that the system will tend to weed them out.

It is important to note also that Worthy attributes much of the success of the Sears organization to its ability to meet the personal and social demands of its employees and not to any "logical technology, division of labor, or hierarchy of control." The study showed that both low output and low morale prevailed where jobs were broken down minutely. The most sustained efforts were exerted by employees who performed the more complete sets of tasks; these likewise exhibited the highest levels of morale and *esprit de corps*. Further, the research revealed that size of the organization unit was unquestionably a most important factor in determining the quality of employee relationships: the smaller the unit the higher the morale, and vice versa. It was clear that closer contact between executives and the rank and file in smaller organizations tends to result in friendlier, easier relationships.

#### IN PERSPECTIVE

The research results that have been described are not conclusive, of course, but they do suggest that many of the so-called principles of management and organization are preconceived and have little value as descriptions of behavior or as prescriptions for success. Though specialization has its advantages, it may create employee attitudes and demands that are injurious to the organization. Similarly, efforts to departmentalize according to the requirements of work—while necessary for some degree of order, planning and control—may create arrangements that are contrary to the requirements for cooperative behavior. Also, while the importance of economic and material incentives cannot be denied, reliance on them as the prime or only means of motivation may produce behavior that is contrary to organization needs such as loyalty, honesty, and initiative.

The administrator's task is a difficult one. According to what has been suggested here, the administrator must provide a structure that is loose enough to gain the motivational

benefits from the natural social inclinations of organization members, yet he must impose the technical or formal organization and controls so necessary for efficient goal achievement.

As an example of organizing on the basis of natural tendencies, consider the way people associate in small informal groups. They are not only influenced by customs, traditions, and structure, but also receive many satisfactions from and are motivated by membership in these simple social systems.

It seems appropriate, therefore, that the formal organization be structured to take advantage of the benefits provided by smallness. Small, loosely structured organizational units, coupled with maximum employee involvement in organization affairs, can provide the cooperation necessary for successful performance. Seemingly, as the number of organizational units increases, the task of coordination and control will become more difficult. However, the converse may be true, depending on the number of levels, the directness of communication, the amount of interaction and involvement that takes place in an organization. The flat or horizontal type of arrangement (wide spans of supervision and few levels), where the lines of communication are simple and direct, can more readily be coordinated than the organization with many levels where communication is relatively slow and subject to many interpretations. The coordination problem becomes simpler when components of the organization operate autonomously. Left to operate on their own, decentralized units need only to be coordinated on end results.

It is important to re-emphasize that over-specialization and overfunctionalization in decentralized units can create not only the same problems as those experienced in the larger, more centralized organization but also

more complex ones. The more a functional unit is defined as a separate entity, the greater the possibility that it will neglect its integrative purpose and be at odds with the over-all objectives of the decentralized unit as well as the whole organization. Furthermore, over-functionalization may tend to make relationships at both the management and employee levels too formal. Cooperation may then be limited to that required by organization policy or the management hierarchy. Thus, the task of coordination becomes even more burdensome, increasing the necessity for elaborate systems and formal controls. This type of system, characterized by pressure-oriented management with undue regard for end results, can also be detrimental to the human organization. A loosely structured organization, where the emphasis is on teamwork and where there is a high degree of compatibility between goals of group members and the over-all objectives of the organization, produces a human organization that is much more cooperative and productive.

Those who argue against organizing on the basis of human characteristics and tendencies emphasize the difficulties inherent in trying to diagnose human problems and in predicting human behavior. Diagnosis, of course, requires a much more learned and analytical administrator. He must be aware of and understand the research on organization behavior. He must be able to conduct and supervise research in his own organization concerning problems peculiar to his situation. With understanding and analysis, he should be better equipped to predict the outcome of anticipated courses of action and choose those that promise continued organizational success. Granted, this requires administration of a high order. It is, however, a necessity if organization in accord with reality is desired.



## TECHNOLOGICAL HORIZONS

Robert C. Turner  
EDITOR

lion investment will not be felt for a number of years because of the lag between the laboratory and the production line. Moreover, it seems that R & D expenditures will continue to grow; the best prognostications say that they will increase about 7 per cent per year, which means that they will double in ten years.

### Basic Research

Since basic research is the source of new technology, it has often been asserted that the national R & D effort does not include enough basic research. This argument, however, has a semantic aspect; there are many different concepts of what is meant by basic research. For present purposes, a suitable definition might be something like that of the National Science Foundation, which says essentially that basic research consists of original investigation designed to advance scientific knowledge, without specific objectives for application. If this definition is accepted, it seems that around 7 per cent of 1960's \$14 billion for R & D, or about \$1 billion, went into basic research. Conditions are relatively unchanged from when the National Science Foundation said in one of its reports: "Basic research is . . . underemphasized in the United States. . . . Redoubled efforts are required if it is to keep pace with the rising demands of technology."<sup>1</sup>

There is a little more to be said, however. Technological advance is much more expensive than the corresponding advance in basic research. In specific areas, the technology that uses the results

### TECHNOLOGICAL CONCERNS FOR TOMORROW'S MANAGEMENT

by Estill I. Green

*What is there in the list of strange and unexpected events that has not occurred in our time? We are born to serve as a theme of incredible tales to posterity. (Oration Against Ctesiphon)*

THE PRESENT generation might well echo these words of Aeschines spoken in 330 B.C. Within a lifespan, the world has been changed almost beyond recognition by technological advances. Countless new terms like radar, microwaves, transistors, supersonics, megatons, fallout, and space probes have become part of common speech. Moreover, it is practically certain that, short of mass suicide by the human race, scientific progress will not merely continue, but accelerate. Knowledge in the physical sciences may or may not be doubling every fifteen years, as was asserted not long ago, but without doubt it is increasing sharply.

This increased knowledge brings new and serious problems for those in industrial management; they must bear in mind, to use James Russell Lowell's words, that "new occasions teach new duties." This article surveys the expanding technical forces, indi-

cating the trends of future technological development, and poses some of the questions that management must attempt to answer in the coming decade.

### R & D EXPENDITURES

While a linear relationship between national expenditures for research and development and the resulting achievements is not to be expected, the figures are nevertheless interesting. Data compiled by the National Science Foundation indicate that R & D expenditures in the U.S. in 1960 totaled about \$14 billion, with 60 per cent of this sum coming from government and 40 per cent from industry. However, industry performed about 80 per cent of the actual work, government about 15 per cent, and colleges, universities, and other nonprofit institutions the remainder.

The \$14 billion total becomes more meaningful when it is compared with the mere \$2 billion spent only fifteen years ago. It should be remembered, too, that the full effect of the year's \$14 bil-

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<sup>1</sup> National Science Foundation, *Basic Research, A National Resource* (Washington: U.S. Gov't Printing Office, 1957).

WE SHOULD all be concerned about the future because we will have to spend the rest of our lives there.

—Charles Francis Kettering

SEED FOR THOUGHT (1949)

of basic research may cost 10 or 20 times more than the research itself. Moreover, the lines between basic and applied research are never sharply drawn. Applied research actually makes a far from negligible contribution to pure science. Both of these factors suggest that there may be less imbalance in the national R & D program between basic and applied research than one might suppose.

#### TECHNOLOGICAL ADVANCES

Provided no political catastrophe occurs, both arithmetic and common sense forecast an era of rapid technological growth. The continued growth of our economy and even the survival of our society may depend upon our success in utilizing scientific developments for essential needs.

Few people would quarrel with these broad statements; it would be helpful, however, to know more. There is a wide difference in the rate of R & D expenditure for different industries and the corresponding development of new and improved products and processes. It is only natural, therefore, to speculate as to what sort of advances are to be expected in specific areas of technology, and what new technical

forces may come into play in such various sectors as electronics, communications, computers, automation, and power production and utilization.

#### Electronic Devices

Electronic devices may well serve as a starting point for specific predictions. In the world of tomorrow, the advance in both communications and electronics will be paced by progress in the technology of electronic devices. The full impact of the transistor has yet to be felt. This device is undergoing steady improvement; witness the recently announced combination of epitaxial growth with diffusion techniques to provide increased speed and other advantages.

The transistor is just one of a host of new electronic devices stemming largely from better understanding of the properties of matter. Set noise, always the *bête noire* of radio receivers, can be greatly reduced by the maser or the parametric amplifier, and traveling wave tubes will provide effective amplification of higher frequencies. Tunnel diodes promise advances in high-speed circuitry. Microwave logic may revolutionize computery by providing logical operations at a

rate of some 500 million per second. Moreover, communication and electronic systems will derive increased versatility, speed, and effectiveness from new memory devices such as ferrite sheets, twistors, magnetostrictive delay lines, and so on. Superior reliability and economy, as well as greater miniaturization for specific applications, are the objectives of various approaches, including, for example, integrated circuit devices employing thin-film techniques.

#### Communication Systems

Newfangled electronic devices, intriguing as they may be, are merely the means to new and better systems. Communications, both cause and effect of civilization, still hold much in store. Better understanding of the processes of speech generation and perception may yield more useful and versatile systems. Transmission systems will be radically changed by pulse techniques, and switching systems by high-speed electronic circuitry. In fact, the first central office in which the switching operations are performed electronically is under public trial at Morris, Illinois. Intensive multichannel use of radio frequency bands should afford more effective mobile telephone service. Wave-guide systems filled with millimicrosecond pulses can provide vast frequency spectra, each spectrum capable of handling tens of thousands of voice circuits or hundreds of TV pictures. Technically, television will be even less limited than before, though the use of the medium may continue to pose problems of social responsibility.

World communications seem certain to become a vastly more powerful force in world affairs. The network of ocean cables with

submerged repeaters is expanding rapidly, and recent experiments suggest that before too long radio communication via satellites will enter the picture. There is also increasing understanding of the vital role of communications in military control.

Data communication systems promise to have substantial effects on the economy. Much of the demand for these systems will result from the growing use of data processing in the mechanization of inventory, production, payroll, accounting, and similar tasks, and in services to the public such as airline reservations and centralized charge accounts. Data communication facilities permit the use of data processing centers fed with information from outlying points, the process results being either used locally or distributed more widely.

*Computers and Data Processing*

In the related field of electronic computers and data processing, including all of the instruments and techniques for mechanizing mental tasks of various kinds, progress has been so rapid that it is almost impossible to predict the full effect of present, let alone future, technology. A high-speed electronic computer can perform numerical computations a million times faster than a human being with a desk calculator, at a tiny fraction of the cost per calculation. The path of technological progress is toward greater speed, larger random access memory, miniaturization, and greater economy. These factors will be accompanied by improved organization of computers, better input and output arrangements, and improved programming techniques. To management, the greatest contribution of data

processing should lie, not in labor saving, but in the better organization, control, and planning that it makes possible.

In development and research, computers of both the digital and analog types will not only help increasingly to alleviate the shortage of technically trained personnel and to reduce cost, but, even more important, they will relieve people of repetitive and uncritical tasks, freeing them for work that requires imagination and judgment. Already computers are being used for many types of engineering design, for simulating system performance, for the automatic preparation of manufacturing information, and for tackling hitherto unmanageable technical and scientific problems. Among specific tasks now being assumed by computers are checking of

design data; locating electronic components and interconnecting wires; preparing instructions for automatic wiring machines; and printing wiring diagrams. In this situation, the whole concept of the kind of design information required for manufacture needs to be re-examined.

Moreover, a new field of research based on computery has sprung up. This intelligent-machine research, as it is called, aims at using machines for what is termed heuristic problem-solving, that is, solving problems by discovery rather than by comparison with built-in boundary conditions. In addition, the application of digital computers to nonnumerical operations, such as information retrieval and language translation, promises to be useful in many fields.



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## Automation

Closely allied to the use of computers for the mechanization of mental tasks is the use of both analog and digital computers for the automation of physical processes. In many industries this type of automation has already been highly developed. Petroleum distillation is now an automated process; so too is the telephone switching system, described by Francis Bello in *Fortune* as "the world's largest computer."<sup>2</sup> Further rapid progress in the general area of automation is certain. It will depend less upon technical than upon economic factors.

## Energy Sources

The future of mankind is, of course, basically dependent on energy supply. Development of the primary nuclear sources of energy, atomic fission and atomic fusion, has been, and probably will continue to be, slower than expected a few years ago. The fission process, while technically feasible, does not as yet compete economically with steam turbine plants; in addition, disposal of wastes is still a serious problem. While the fusion process holds far greater ultimate promise, technical feasibility is still a long way off. The basic problem is that of confining a reaction that involves temperatures of millions of degrees. However, despite present difficulties, we shall probably even learn how to burn the rocks and the sea by the time we need to do so.

Meanwhile a number of energy converters, or so-called "exotic power generators," show promise

for particular purposes, both military and civil. One of these is the slightly misnamed "solar battery," which employs small silicon cells (each 1 x 2 cm.) to convert solar energy to electrical energy. The device is both costly (about \$180 a watt) and bulky, and it requires an associated storage battery. It is, however, uniquely useful for powering radio equipment in space.

Another device, broader in its possible applications, is the fuel cell, which converts chemical energy directly into electrical energy. Its great virtue is that it is not limited by the Carnot formula, which states that theoretical efficiency is limited to temperature difference divided by input temperature. The dream, not yet realized, is to consume cheap fossil fuels with air at high efficiency (perhaps 75 per cent) and low temperature. If this process could be handled successfully, the fuel cell would have many important medium-power applications, including automobile engines, which at present are only about 20 per cent efficient.

Another converter now receiving attention is the thermoelectric generator, based on the Seebeck effect, which has been known for

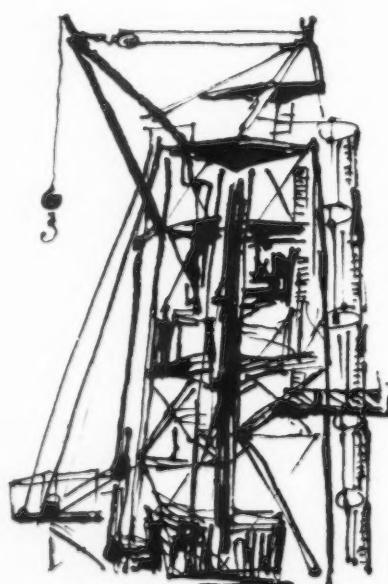
a hundred years. New semiconductor materials that contain heavy atoms, such as bismuth telluride, lead telluride, and silver antimony telluride, show possibilities of greater efficiency, perhaps even as much as 20 to 25 per cent. The Russians are already using thermoelectric devices in low-power generators, for example, and, through the Peltier or inverse effect, in small refrigerators.

From the temperature of about 1,000° C., where the thermoelectric generator breaks down, up to about 3,000° C., heat can be converted into electricity by the process of thermionic emission. Electrons boiled out of the cathode deliver energy at the anode (the Edison effect). Various laboratories are working on thermionic tubes of this kind, either filled with ionized gas or evacuated. The chief problem is that of obtaining suitably refractory metals and ceramics. These tubes may prove useful in vehicles and as auxiliaries to nuclear reactors.

For generating large amounts of power, magnetohydrodynamics, usually abbreviated to MHD, may be the answer. This makes use of Faraday's basic discovery that current flows in a coil of wire that is moved through a magnetic field. In place of the coil of wire, however, the MHD generator uses a stream of ionized gas. The theoretical efficiency is very high, perhaps as much as 65 per cent. The stumbling block is that so far no materials have been produced capable of operation at the 3,000° C. temperature required for MHD.

## Space Technology

There has been enough hubbub about the space age to merit a separate consideration of this subject. When it comes to space technology, a good many people are like the White Queen; they



<sup>2</sup> Francis Bello, "The World's Greatest Industrial Laboratory," *Fortune*, LVIII (Nov., 1958), 150.

believe six impossible things before breakfast. What is more, they continue to believe them. The possibilities of space are in need of objective examination.

Transoceanic radio communication via man-made satellites holds considerable promise, both commercial and military. Although a "passive" (that is, reflecting) satellite has been used in the successful Echo experiments, greater promise seems to lie in "active" satellites (that is, satellites equipped to amplify and retransmit the incoming signals). The problems to be solved in this area, however, are so complex that there is no certainty as to the outcome. Satellites are valuable for military reconnaissance, and may be useful also for navigation.

Exploration of the phenomena of space and of the nature of such bodies as the moon, Mars, and Venus is of great scientific interest and warrants intensive effort. Moreover, such exploration seems to possess high prestige value internationally. But those who talk of embarking in space vehicles for Cassiopeia or the Pleiades are unaware that it will take a lifetime just to reach the bounds of the solar system. Nor is the traveller likely to return from such relatively close bodies as Mars and Venus. Clearly, colonization of space offers no solution to the problem of world population.

#### TECHNOLOGY OF MATERIALS

Advances in all the technologies we have discussed will be increasingly supported by the technology of materials from which devices, structures, and systems are made. This technology in turn is drawing new strength from an expanding basic science of materials that is utilizing the cooperative efforts of a number of

different disciplines — physics, chemistry, metallurgy, ceramics, crystallography, and others.

The field is so broad that a cursory glance must suffice. Progress in combining the cross-linked polyester and epoxy resins with fibrous reinforcement is bringing plastics into the structural field. Already we have plastic automobile and truck bodies. Applications in buildings and homes, to mention only two possibilities, are just around the corner.

Recent advances in "directed polymerization" have made it possible to design polymers on a tailor-made basis. We shall see an increasing number of stronger, harder, and tougher plastics with greater resistance to temperature and radiation, and increased durability. Expanded plastics, already in wide use, will be employed for still other purposes,

such as wire insulation in telephone cables.

Likewise, remarkable advances are being made in ceramic and other inorganic materials. This results from rapid progress in learning how to put inorganic ions, atoms, and molecules together in single crystal, polycrystalline, or glassy form to obtain desired properties. Both microstructure and macrostructure can be controlled, and materials applied either in massive or thin-film form. Examples include ferromagnetic ferrites and garnets; ferroelectric and dielectric titanates and niobates; single crystals of piezoelectric quartz, synthetic diamond, zinc oxide, and cadmium sulphide; synthetic sapphires and rubies for masers; tantalum and tantalum oxide films for printed resistors and capacitors; and pyrolytic graphite, bor-

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### TRENDS

So much for a brief survey of technical forces. It is pertinent now to see what distinct trends or unifying factors with possible import for management emerge from such a heterogeneity.

First, it seems clear that science and technology will move faster in the years ahead. It is only natural to wonder just how long an exponential rate of technological advance can continue, and indeed, a slowdown is already apparent in certain fields. For technology as a whole, however, the momentum is still building up; no stopping point is yet in sight.

Second, technology is becoming vastly more complex. As a corollary to greater complexity, practically all technologies are fast becoming more interdisciplinary. Traditional boundaries between fields are tending to be obliterated.

Third, the cost of technological advance is going up at a disturbing rate. The principal reasons for this rise in cost are the greater complexity, the highly competitive demand for technically trained personnel, and the general inflationary trend. Accompanying the increase in R & D cost is a growing need for capital investment in producing plant.

Fourth, an ever larger percentage of R & D effort is being con-

ducted at government expense. In part this has, up to now, reflected a fifth trend—increasing emphasis on national defense. This emphasis will doubtless continue, at least for some time to come.

But there is another discernible trend in government R & D expenditure, with a more or less similar counterpart in private industry. This is a trend toward more concentration on technology designed to promote human welfare. It comprises activities related to human health and survival, plant and animal genetics and growth processes, food production and processing, and pharmaceuticals, to name only a few. Unfortunately, the long-range problem of population control is sadly neglected.

### PROBLEMS FOR MANAGEMENT

It takes no seventh son of a seventh son to foresee that these technical forces and trends will pose new and grave problems for industrial management, both individually and collectively, in the years ahead. Indeed, it may be profitable just to list some of the questions that naturally arise.

What sort of organizational structure is best adapted to technological change? How can an organization develop entrepreneurial spirit?

How large an R & D program should any industrial organization undertake? How much basic research content? How should it evaluate and finance R & D? How should the R & D program be planned? How far ahead? How should it be coordinated with market research?

How can the professional staff best be managed? How can they be given the needed motivation and challenge? How can professionals keep abreast of the changing art?

To what extent can computers supplement the short supply of scientists and engineers?

What qualifications and training will management people need? What understanding of science? In what circumstances will technical training be essential? What sort of educational pattern will best meet managerial needs?

How can most effective use be made of data processing both for operations and for organizational control and planning? How can management make effective use of the new tools available for analysis and decision-making?

How can the new investment involved in technological advance be financed? How can an organization provide for technical obsolescence?

What consideration should be given by management, individually and collectively, to the social and ethical implications of changing technology (for example, automation)?

Can business and government cooperate more effectively? How can private and government technology be better coordinated? How can industry take better advantage of government advances in technology? How can private industry and government reconcile their divergent views on the patent system?

How much R & D should be undertaken for government by industry as a whole? How much by each organization? What can be done by private industry as a whole, in view of increasing governmental direction of technical progress, to preserve the values of free enterprise and minimize its drawbacks?

What should industry do to promote increased understanding of public issues that involve science and technology?

It is tempting to pontificate on some of these matters. But maybe it is better to leave the resolution of these questions, as well as others that may come to mind, as an exercise for those skilled in the art.



**Lois Shepherd Headings**

**EDITOR**

## book notes and reviews

### THE BARD AND THE COMMISSAR

*Let Observation with extensive view,  
Survey mankind from China to Peru.* (Dr. Johnson)

WE NEED continual reminding that increasing numbers of people around the world accept the "fact" of communist superiority, believing it to be the wave of the future—the inevitable triumph. Until the advent of the sputniks, there was a tendency among communists to feel that inevitability would have to be nudged by internal and external force; since then, they have grown more confident that demonstration of the superior organizing abilities of "scientific socialism" by Russia and China will woo the uncommitted areas. That bastion of imperialism, the United States, they say, outperformed and squeezed from world markets, threatened with total collapse beneath the growing weight of overproduction, will be goaded into precipitating World War III. From this last imperialist holocaust, Russia and China will emerge triumphant and the communist millenium will be at hand.<sup>1</sup>

This confident view is spelled

<sup>1</sup> As a recent European joke goes, the difference between an optimist and a pessimist is that the optimist is studying Russian and the pessimist, Chinese.

out in detail in **THE FUTURE IS OURS, COMRADE: CONVERSATIONS WITH THE RUSSIANS** by the pseudonymous *Joseph Novak* (Doubleday, \$3.95). The conversations cover a good cross-section of Russian society—better, in fact, than most such reports because the author, a native of a communist country, speaks fluent Russian and, for his tour, carried letters of introduction and endorsement from high Soviet officials. Novak's report, like those of other recent books on Russia,<sup>2</sup> is depressing and disturbing. There is the backdrop of the multifamily apartments with no privacy, of the city street that has become the Russian's parlor—providing anonymity as a substitute for privacy and elaborate public buildings for the bourgeois comforts of home—of the puritanical attitudes toward sex and marriage, the constant sur-

<sup>2</sup> Recent and recommended views of the Russian scene: Hadley Cantril, *Soviet Leaders and Their Mastery over Man* (Rutgers); Frederick C. Barghoorn, *The Soviet Cultural Offensive* (Princeton); *The Transformation of Russian Society*, edited by Cyril E. Black (Harvard); and Adam B. Ulam, *The Unfinished Revolution* (Random House).

veillance of neighbor and co-worker, the inquisitorial and ubiquitous committees, the regimentation of hospital and school, and the reverence for authority and position. Against all this is drawn the composite portrait of the social man, the "other John" who has become by socialist fiat the only John. There is no desirable or "moral" existence except as a part of an organized group. To succumb to the cult of the individual is to commit the great antisocial sin, that of behavior unworthy of the socialist ideal; even to aspire to an apartment of one's own or for oneself and one's wife is immoral. As one party spokesman explains:

"In other words, it doesn't matter what a man really is. A man is only what others think he is, nothing more. Especially under conditions where the value [or] uselessness of a man is evaluated by an organized group. This is certainly true in the case of a Party member whose fate is wholly dependent upon the reputation which he manages to gain in the Party. From the moment the Party began to regard Stenka as an enemy, he became an enemy regardless of any other considerations." (p. 220)

Or as a student reports:

"Now I understand the principle of the group as I never understood it before. Only through the group can people get to know each other so thoroughly. In a family the parents can never get to know their children so well, especially since they are never with their family in the daytime but only at night when everybody is asleep.

.....

"Comrade Mishka stated that he has the right to arrange his private life as he pleases. That is not true, comrade, not true at all. Your private life does not take place on a desert island, not even in a bourgeois, capitalistic island. Your pri-

vate life takes place in a socialistic society and by grace of this society. That's why your private life is subordinated to the life of this society, just as your person is subordinated to our students' and Komsomol groups which in a moment will pass judgment on your behavior." (pp. 160, 163).

Among these reports and the unhappy accounts of planned tours abroad (planned, that is, to illustrate socialist dialectic, not to expand awareness), rabid anti-Semitism (Israel, they believe, is a tool of the imperialists and an obstacle to communism among the colonial nations; Jews are the worst foes of socialism, and they murder innocent Arabs), and the adoption of Cossack barbarism by Soviet militia,<sup>3</sup> there comes a ray of hope. It appears in, of all things, the description of the black market under the euphemism of "something for good will." Illegal trade is a pervasive practice in the land of the producer's market. Bribes run high because managers take enormous risks in these transactions and must share the money with co-workers who help or merely watch. Sometimes part of the money must be passed on up to the warehouse manager and even to a commission member or an inspector. The methods of conducting these transactions are highly ingenious. The operation of an informal organization here shows one of the few sparks of humanity (of human rebellion, that is) not extinguished by the Russian monolithic institutions of control.

Once the horror raised by this

picture subsides, there is much to be learned from objectively viewing Soviet society. We might point out that the increased socialization of man in the United States seems to indicate that it might be in part a response to industrialization itself under certain social conditions. More and more Americans tend to associate and identify with their work-groups. Americans are also organization- or club-oriented from Cub Scouts to the Committee for Economic Development. Team spirit, other-directedness, group behavior, conformity—all these current terms warn us that we might well re-examine ourselves from the perspective of Russia's Big Brother syndrome and the cult of the social self. We might also reflect on the deliberate downgrading of the humanities in Russia since 1952 and the castigation of "the cult of the individual," in the light of our recent tendency to scant the humanities in favor of the sciences.

Our principal concern, however, remains with the Soviet citizen's assurance of inevitable triumph in the struggle with imperialism. A history teacher summarized the dialectic for Novak in this way:

"Dialectic and historical materialism is the foundation of all teaching. Our task in teaching history is reduced to this fundamental conclusion: socialism is a higher type of social-political system and must win, because such is the mechanism of the development of the world, and because objectively operating historical and economic laws lead to this conclusion. The Communist Party is armed with scientific knowledge of these laws and is vitally interested in knowing more about them and using them in practice for the purposes of socialism. Basing its work on these laws, the Party cannot be mistaken as to the basic

direction of the development of the U.S.S.R. and of the struggle with imperialism. Contemporary imperialism is, as we say, 'Pregnant with war.' This means that for imperialism, war is a life necessity and that the imperialists, driven by the laws of capitalistic economy, of which laws they are not aware, will try to bring war about at any cost. Therefore, peace seriously weakens imperialism and may lead, with the ever-shrinking world market, to a violent internal crisis. On the other hand, war will be a debacle for imperialism because of the U.S.S.R.'s military power and scientific war strategy. In other words, the crisis of imperialism becomes a reality. The struggle of socialism with imperialism enters its last and decisive state." (p. 277)

Significantly, another view, that of a university professor, is given thus:

"'Communism,' the professor said, 'is principally organization, a way of management, of control over society and production. It is a certain method of political and economic authority. Ideology is a secondary factor, and explains nothing. On the contrary, it muddies and complicates a clear understanding of the substance of the matter. Who knows, maybe that's its purpose?'" (p. 171)

Specific chronology for this triumph is given by a professional Marxist of the East European youth movement. Our present period, by his timetable, is the one immediately preceding the world victory of socialism. The only remaining opponent is American imperialism. Militarily, Europe ceases to count as soon as the coming war breaks out.

"Even the German divisions armed with American weapons won't change this fact. So certain is this, that the near future may see amazing changes in our policy toward Germany." (p. 215)

<sup>3</sup> We are reminded here, however, of the recent shocker, *The Question* by Henri Alleg, about French Army barbarism in Algeria. Banned in France and exploited by communists, it underscores a great moral problem for the West.

# MACMILLAN MAKES BUSINESS ITS BUSINESS IN SPRING, 1961

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War, however, has an alternative, according to this official. If a disarmament resolution can be forced through the U.N., the U.S. will experience a chronic and insurmountable economic crisis. In the resulting breakup, Russia will step in and put political power into the hands of a Communist-leftist government. The U.S. economy will then be placed within the context of an international market and organized accordingly. The socialist conquest of the U.S. will come within ten years, but it cannot occur before Asia and Africa fall within the sphere of the political influence of the Soviet-Chinese bloc. Ten years ago, he admits, it may have been only a slogan to say "there is no escape from the future"; this is no longer a mere slogan—no other social system has managed to achieve so much in so short a time.

Where then is coexistence? Is it a myth of Soviet diplomacy? Not entirely, Novak's informants would say. Does it mean coexistence until the U.S. economy falls on its nose? Most likely, but a Scandinavian diplomat with more than ten years' service in Russia claims coexistence is a possibility if American policy becomes consistent and is based upon honest analysis of concrete political, economic, and social conditions made by experts and backed by more flexible government machinery more given to action than to nineteenth-century moral preachments. In the introduction to Novak's book, former N.B.C. Moscow correspondent Irving R. Levine remarks that reports on Russia resemble accounts by blindfolded men describing an elephant: each touches a different part of the animal. Novak, to some extent,

was remarkable in not being blindfolded. The country, however, is immense and varied. Levine concludes:

"For example, many of the Russians I talked with expressed a deeper skepticism about the contents of *Pravda* than did those with whom Joseph Novak spoke. Many Russians conveyed to me a longing for peace and a confidence that peace could be maintained because war is too catastrophic to contemplate. Joseph Novak relates with obvious authenticity and accuracy what certain Russians told him. What they told him will leave the reader with one overwhelming emotion: The fervent hope that the title of this informative, unusual, and fascinating book will never come true." (p. 10)

So convincing was Novak, however, that we turned in momentary desperation to a book

we had passed over in our reviews with a brief notice. The book, **W. W. Rostow's THE STAGES OF ECONOMIC GROWTH: A NON-COMMUNIST MANIFESTO** (Cambridge, \$4.00) proved worth the renewed interest.<sup>4</sup> The stages constitute a theory based on history—a discrimination of patterns in the process of industrialization. On the basis of these insights from economic history, an alternative to Marxist-Leninist dialectic is offered, and implications for American military and foreign policy set out. The book is informal and nontechnical because it derives from a set of lectures de-

<sup>4</sup> Perhaps the best current apologia for Rostow's work can be found in Eugene R. Black's new *The Diplomacy of Economic Development* (Harvard). On the other hand, David McCord Wright, writing in *Fortune* (December, 1959), rejects Rostow's dialectics for various reasons.

## SCIENCE AND THE MILITARY

### RECENT

*James Baar and W. E. Howard, POLARIS!* (Harcourt)

*Paul Couderc, THE WIDER UNIVERSE* (Author with Observ. of Paris; Harper)

*Johannes Dogigli, THE MAGIC OF RAYS* (Borzoi)

*Leonard W. Doob, BECOMING MORE CIVILIZED* (Psych.; Yale)

*Maurice Duquesne, MATTER AND ANTIMATTER* (Harper)

*Editors of Fortune, THE GREAT AMERICAN SCIENTISTS* (Prentice)

*Irenaus Eible-Eibesfeldt, GALAPAGOS: THE NOAH'S ARK OF THE PACIFIC* (Doubleday)

*H. Estabrooks and Nancy Gross, FUTURE OF THE HUMAN MIND* (Dutton)

*William Glasser, M.D., MENTAL HEALTH OR MENTAL ILLNESS?* (Harper)

*Charles C. Hughes and others, PEOPLE OF COVE AND WOODLOT* (Men-

tal illness, vol. 2 of Stirling Co. study; Basic Books)

*Max Jammer, CONCEPTS OF SPACE* (Harper)

*Robert M. MacIver, LIFE: ITS ORIGIN, NATURE, AND BOUNDARIES* (World Perspectives series; Harper)

*Henry Margenau, OPEN VISTAS: PHILOSOPHICAL PERSPECTIVES OF MODERN SCIENCE* (Yale)

*Dan A. Martindale, THE NATURE AND TYPES OF SOCIOLOGICAL THEORY* (Houghton)

*Benjamin F. Miller, M.D., and Ruth Goode, MAN AND HIS BODY* (S. & S.)

*Lorus and Margery Milne, THE BALANCE OF NATURE* (Borzoi)

*Ruth Moore, THE COIL OF LIFE* (Great discoveries in life sciences; Borzoi)

*Guy Murchie, MUSIC OF THE SPHERES* (From an imaginary station in outer space; Houghton)

*Gardner Murphy, CHALLENGE OF PSYCHICAL RESEARCH* (World Perspectives series; Harper)

livered to undergraduates at Cambridge University. It is also the result of Rostow's long-time concern with offering a satisfactory alternative to Marx's solution to the problem of linking economic and noneconomic behavior.

The fundamental difference between Marx's and Rostow's approaches to history hinges on whether or not societies are shaped by economic forces alone. Marx, of course, is a strict economic determinist. Rostow, on the contrary, states at the outset that:

... although the stages-of-growth are an economic way of looking at whole societies, they in no sense imply that the worlds of politics, social organization, and of culture are a mere superstructure built upon and derived uniquely from the

economy. On the contrary, we accept from the beginning the perception on which Marx, in the end, turned his back and which Engels was only willing to acknowledge whole-heartedly as a very old man; namely, that societies are interacting organisms." (p. 2)

Rostow does maintain, however, that all societies when described economically fall into one of five categories or stages: the traditional society, the preconditions for take-off (or transitional society), the take-off, the drive to maturity, and the age of high mass-consumption. These stages Rostow poses against Marx's feudalism, bourgeois capitalism, socialism, and communism. Buttressed with historical description and some economic analysis (based upon his earlier work, *The Process of Economic*

*Growth*), Rostow discusses each of his stages in turn. Within this framework, a comparison is made between the relative growth paths of Russia and the United States, and a certain solace is afforded in this conclusion:

"The lesson of all this is, then, that there is nothing mysterious about the evolution of modern Russia. It is a great nation, well endowed by nature and history to create a modern economy and a modern society.

.....

"Its [Russia's] political leadership is now trying to exploit the margins of resources opened up by arrival at maturity to seek a radical expansion of Soviet power on the world scene, by damping the rate of expansion of consumption. But neither in scale, nor in allocation, nor in momentum do Russian dispositions present a menace beyond American and Western resources to deal with; nor, peering farther ahead, are there reasons to believe the Russian experience will transcend familiar limits.

"The problem posed by contemporary Russia lies not in the uniqueness of its story of modernization, but in whether the United States and the West can mobilize their ample resources to do the jobs that must be done—resources of spirit, intellect, will and insight quite as much as steel and electronic gadgets; and jobs which extend not only to missile arsenals and the further diffusion of welfare at home, but to the Indian second and third Five Year Plans and the far reaches of Asia, the Middle East, Africa, and Latin America." (pp. 104-5)

In a comparison of the stages-of-growth analysis with Marxism, Rostow first summarizes what he calls the seven propositions of Marxist thought.

Rostow then sketches the central themes of the stages of growth. To Marx's belief that human motivation under conditions of scarcity is reduced solely

*Albert Parry, RUSSIA'S ROCKETS AND MISSILES* (Doubleday)

*Jacques Piccard and Dr. R. S. Dietz, SEVEN MILES DOWN* (Dives of the bathyscaphe "Trieste"; Putnam)

*F. S. Pollak (ed.), RESOURCES DEVELOPMENT: FRONTIERS FOR RESEARCH* (U. of Col.)

*Elmer B. Potter (ed.), SEA POWER* (Naval hist.; Prentice)

*Jean Rostand, ERROR AND DECEPTION IN SCIENCE* (Basic)

*George Simpson, PEOPLE IN FAMILIES: SOCIOLOGY, PSYCHOANALYSIS, AND THE AMERICAN FAMILY* (Crown)

*Richard Tregaskis, x-15 DIARY* (America's first space ship; Dutton)

*Robert W. Tucker, THE JUST WAR: A STUDY IN CONTEMPORARY AMERICAN DOCTRINE* (Johns Hopkins)

*G. B. Turner and R. D. Challener (eds.), NATIONAL SECURITY IN THE NUCLEAR AGE* (Praeger)

*Gaston Viaud, INTELLIGENCE: ITS EVOLUTION AND FORMS* (Harper)

*William Vogt, PEOPLE! CHALLENGE TO SURVIVAL* (Sloane)

*Lancelot Law Whyte, UNCONSCIOUS BEFORE FREUD* (Basic)

#### FORTHCOMING

*Robert Ardrey, AFRICAN GENESIS* (Animal sources of human conduct; Atheneum)

*Willard Bascom, A HOLE IN THE BOTTOM OF THE SEA* (Sc. proj. to drill hole through earth's crust; Doubleday)

*Ritchie Calder, AFTER THE SEVENTH DAY* (Man's mastering of his environ.; S. & S.)

*Jerome D. Frank, M.D., PERSUASION AND HEALING* (New school of psychotherapy; Johns Hopkins)

*Ralph Lynn, THE NEXT DECADE IN SPACE* (Harper)

*Hyman Spotnitz, M.D., THE COUCH AND THE CIRCLE* (Group psychotherapy; Borzoi)

*Arch Whitehouse, SUBS AND SUBMARINERS* (Doubleday)

to economic advantage or profit maximization, Rostow asserts that man is a complex unit who seeks much besides economic advantage.

"In short, net human behaviour is seen not as an act of maximization, but as an act of balancing alternative and often conflicting human objectives in the face of the range of choices men perceive to be open to them." (p. 149)

The mechanism of growth is not necessarily the Hegelian clash of conflicting interests and cataclysmic overthrows. Nor, conversely, can all war or armed conflict be explained by the simple analysis of economic advantage. Marx, a lonely, isolated man, apparently never understood the drive for communal continuity even among exploited workers in terms of either the price of compromise or the character of nationalism.

Marx, of course, generalized from the example of Great Britain's industrialization process to 1848 and with only the more advanced Western countries in mind. He could not foresee today's wholesale breakup of traditional societies and the primacy of affronted nationhood over economic advantage. No more did he foresee that the first socialistic victory would occur in a country at the transitional stage rather than, as he predicted, in an industrially mature society. In Lenin's deliberate organization of socialistic take-over by a minority outside the proletariat during a period of disruption (World War I in this case) lies the modern revision of classical dialectical materialism. It is from this juncture that our real problems with scientific socialism flow. To return to the comparison of the seven propositions and the stages of growth, history since 1848 has

#### FOR THE BUSINESS EXECUTIVE

*Joseph D. Cooper, THE ART OF DECISION MAKING* (Doubleday)

*Simon Marcson, THE SCIENTIST IN AMERICAN INDUSTRY* (For Indus. Rel. Sec., Princeton; Harper)

*Robert Morell, MANAGERIAL DECISION-MAKING* (Bruce)

*John Shepperd, THE PRESIDENT'S GUIDE TO CLUB AND ORGANIZATIONAL MANAGEMENT, MEMBERSHIP, AND MEETINGS* (Hawthorn)

*Leonard Silk, THE RESEARCH REVOLUTION* (Sr. Ed. of *Business Week*; McGraw)

*STATE TAX GUIDE* (One-vol. tax guide; Prentice)

*Raymond Villers, DYNAMIC MANAGEMENT IN INDUSTRY* (Prentice)

#### EXECUTIVE HEALTH

*Robert F. Goldman, CONFESSIONS OF AN EX-FAT MAN* (On reducing; Doubleday)

*William M. Hitzig, M.D., MARGIN OF SAFETY* (Adjustment of patient and therapy; Globus)

#### INTERNATIONAL BUSINESS

*Kingman Brewster, LAW AND UNITED STATES BUSINESS IN CANADA* (Nat'l Planning Ass'n)

*Louis O. Delwart, THE FUTURE OF LATIN AMERICAN EXPORTS TO THE UNITED STATES, 1965 AND 1970* (Nat'l Planning Ass'n)

*Peter Partner, A SHORT POLITICAL GUIDE TO THE ARAB WORLD* (Praeger)

clusive activity. But no uniform social and political superstructure has developed during these periods of energetic extension of modern techniques. Each society has grown in terms of its inherited culture. What's more, real wages have risen and mass progress itself yielded a non-Malthusian check on the birth rate. When compound interest took hold, says Rostow:

"Progress was shared between capital and labour; the struggle between classes was softened; and when maturity was reached they did not face a cataclysmic impasse. They faced, merely, a new set of choices; that is, the balance between the welfare state; high mass-consumption; and a surge of assertiveness on the world scene.

"Thus, compound interest and the choices it progressively opened up by raising the average level of real income becomes a major independent variable in the stages-of-growth; whereas, in Marx's theory, compound interest appears in the perverse form of mounting profits, capable only of being distributed in high capitalist living, unusable capacity, and war. Put another way, the income-elasticity of demand is a living force in the stages-of-growth analysis; whereas it is virtually ruled out in Marx's powerful simplifications." (p. 154)

As for the Leninist prediction that in this stage profits decline, causing the rise of monopolies, that crises become progressively more severe, and that resort must be made to imperialist wars, Rostow has several replies. There has been no significant increase in industrial concentration, and what there has been was due to reasons other than inadequate domestic consumption; except for the unique depression of the 1930's, there is no evidence that the amplitude of unemployment cycles has increased (moreover, technical tricks of the trade in

shown Marx to be in error on the dynamics of change-over from traditional society to the initial stages of industrialization.

In their drive to maturity, however, societies have historically behaved in the Marxist way. Expansion and money-making are especially rewarding at that stage, and economic growth becomes the dominant but not ex-

dealing with unemployment crises have resulted from the Keynesian revolution); and mature capitalism does not today depend on colonial markets for overproductive surpluses.

"It is perfectly evident that, whatever the economic troubles of the capitalist societies, they do not stem primarily from a dependence on imperialism. . . . The current hope of Communism lies not in the exploitation of confusion and crises brought on by a compulsive struggle to unload exports, but from an excessive absorption of the capitalist world with the attractions of domestic markets." (p. 156)

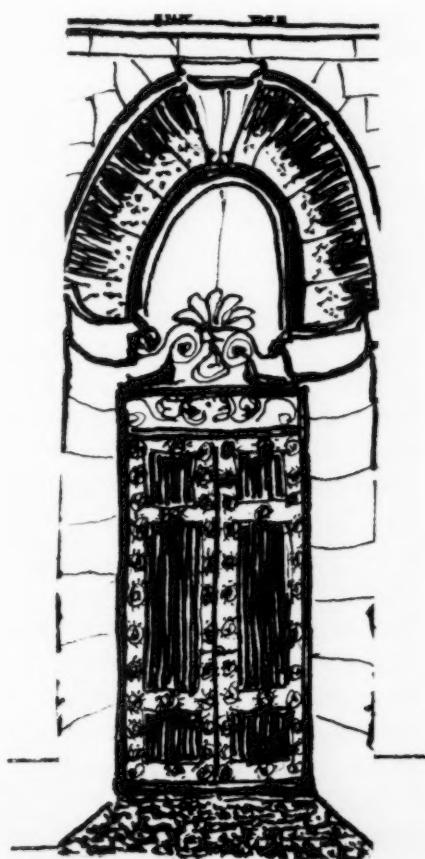
What lies beyond high mass-consumption, when man has overcome scarcity? Pure communism, says Marx, under which man's better nature can flourish because the need and temptation for avarice have been removed. But, he qualifies, this is only possible when scientific socialism has been established all over the world and all imperialist threat eliminated. Then "the state will wither away" and man can live in a self-perpetuating Nirvana. Rostow remarks that the capitalist's view of the age of affluence is somewhat more ambiguous. Will man fall into secular spiritual stagnation?

"Will he follow the Americans and reimpose the strenuous life by raising the birth-rate? Will the devil make work for idle hands? Will men learn how to conduct wars with just enough violence to be good sport—and to accelerate capital depreciation—without blowing up the planet? Will the exploration of outer space offer an adequately interesting and expensive outlet for resources and ambitions? Or will man, converted *en masse* into a suburban version of an eighteenth-century country gentleman, find in some mixture of the equivalent of hunting, shooting and fishing, the life of the mind and the spirit, and

the minimum drama of carrying forward the human race, sufficient frontiers to keep for life its savour." (p. 91)

The salient point of Rostow's review of modern history is his reminder that, contrary to the postulates of Marx, communism has no serious chance of success in a mature industrial society except during a period of disruption such as that caused by war devastation; it is instead a disease peculiar to the stage of transition. This was the stage of socialist victory in both Russia and China—a fact well appreciated by Khrushchev, as evidenced by his policy since 1952. This occurs, says Rostow, because not communism as ideology (Marxist communism) but communism as power, as a technique of organization (Leninist communism), holds an ineluctable appeal for the society that

". . . has acquired a considerable stock of social overhead capital and



modern know-how, but is bedevilled not merely by the conflict between the residual traditional elements and those who would modernize its structure, but bedevilled as well by conflicts among those who would move forward, but who cannot decide which of the three roads to take, and who lack the coherence and organization to move decisively forward in any sustained direction." (p. 163)

The big difference between the communist and noncommunist manifestoes, of course, is that Marx's is a simple prediction of economic fate (socialism would arrive by default) and a corollary critique of capitalism, whereas Rostow's is not only a correction of Marx based on historical evidence, but also a theoretical foundation for policy-making—foreign policy in our case, for example, or domestic policy, in the case of an underdeveloped nation.

The change-over in communist policy, Rostow continues, from ideological-political to military-political has occurred simultaneously with the revolution in military weaponry. The military and foreign policies of the major powers are now

" . . . being conducted at two distinct and only tenuously related levels: one the level of mutual deterrence—of mutual frustration with mass weapons; the other, the softer level of diplomacy, economic policy, and conventional weapons of a low order where the main business of the world goes on. In this softer struggle the major powers from day to day operate under great restraint with respect to powers whose military potential in no way approximates their own.

. . . "societies still in the preconditions period, like Egypt, or in the early stages of take-off, like India and China and Yugoslavia, have been able to behave in world diplomacy on a significant range of issues

—not on all issues, but over a significant range—as the equivalent of major powers; and this is due to the paradoxical character of the new weapons and the diffusion of effective power they have brought about, in the setting of nuclear stalemates.” (pp. 125-26)

This diffusion of effective power will become diffusion of nuclear power, provided the emerging nations remain outside the control of Russia. Nuclear capability by these newer powers, of course, compounds the dangers of mutual destruction for great and small alike. Therefore, it is clearly in the national interest of both the United States and Russia to install a system of arms control and inspection before this can happen. Unfortunately, Rostow points out, Soviet policy cannot be governed solely by national interest for two reasons. First, Russia is ideologically committed to the world-wide triumph of communism, although operationally interpreted as a maximizing of the effective power exercised from Moscow. Second, domestically, an effective system of arms control would create an open society in Russia, undermining the whole internal system of control based on the citizen's conviction that the external world is implacably hostile, and that to survive and conquer he must submit to a high degree of secret-police control and austerity.

“In terms of the stages-of-growth, Russia is a nation seeking to convert its maturity into world primacy by postponing or damping the advent of the age of high mass-consumption. But it is doing so not because the prospects for a temporary victory over the West are all that good; not because Russian security could not be more cheaply and effectively insured; not because

it is in the Russian national interest to continue the arms race—for the contrary is the case—but because Communism is a curious form of modern society appropriate only to the supply side of the growth problem: perhaps for take-off, although this is still to be proved, given Communism's inherent difficulties in agriculture; but certainly it can drive a society from take-off to industrial maturity—as Stalin demonstrated—once its controls are clamped upon that society. But in its essence Communism is likely to wither in the age of high mass-consumption; and this, almost certainly, is well understood in Moscow.” (p. 133)

In order to persuade Russia to accept the gamble, continues Rostow:

“We must demonstrate that we shall not permit them to get far enough ahead to make a temporary military resolution national.

“We must demonstrate that the underdeveloped nations—now the main focus of Communist hopes—can move successfully through the preconditions into a well established take-off within the orbit of the democratic world, resisting the blandishments and temptations of Communism. This is, I believe, the most important single item on the Western agenda.

“And we must demonstrate to Russians that there is an interesting and lively alternative for Russia on the world scene to either an arms race or unconditional surrender.” (p. 134)

According to Rostow, time, at least, is on our side. Once the underdeveloped countries are well on their way to maturity—and without Russian hegemony—the vision of the socialist millennium will dim. It is also likely that what Rostow calls “the Buddenbrooks' dynamics” will operate in Russia, given a strong Western policy that rules out as unrealistic Soviet policies of expansion. The phrase “Budden-

brooks' dynamics” derives from Thomas Mann's novel of three generations, of which

“... the first sought money; the second, born to money, sought social and civic position; the third, born to comfort and family prestige, looked to the life of music. The phrase is designed to suggest, then, the changing aspirations of generations, as they place a low value on what they take for granted and seek new forms of satisfaction.” (p. 11)

Now we may well consider Rostow in terms of the general validity of comparative studies in history and the efficacy of periodic reinterpreting of historical data. Three recent books are admirable examples of the range of opinions on not only the comparability of cultures, but also the causes of culture change and development. From them emerge these pertinent questions: Is history blindly impelled by forces beyond the reach of man? Is it conditioned to any appreciable degree by the conscious efforts of man? Is it a comedy of chance and accident?

IF WE MAY borrow a device of the scholar, we would like to recapitulate, before we launch into these books, a point or two made in the beginning of our discussion of new anthropology books.

First, under the early impact of nineteenth-century evolutionary theory, there was a trend to set all the cultures of history, both contemporary and extinct, in a grand evolutionary pattern of their own—a unilinear progression of development from lower to higher forms of civilization as judged from the viewpoint of the Western tradition. In an anthropological rephrasing of the later debate between theory and empirical fact, the emphasis shifted to closer studies of each culture,

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especially those outside the Western tradition, with a resulting appreciation of the uniqueness, the wholeness, and to some degree the incomparability of each with the others.

With the growing respectability of theory in several fields and the accumulation of data, comparative speculations became inevitable, and the tide turned to theoretical constructs to give some form and order to the mass of data. In general, however, such constructs were made with a great degree of discretion. The idea of unilinear progress, consistent from culture to culture, was replaced by the idea of multilinear development with many variations on the general theme. Instead of "laws" or "principles," the new theorists talk in terms of "patterns" or "regularities."

The content of history has usually been fractured into the study of the development and migrations of primitive populations by cultural anthropologists and the study by historians of complex, or "civilized," societies and their interactions through time. Today, there is a tendency for the two to overlap to an increasing degree. Anthropologists have had to deal more and more with the complex societies as they interrelate with what in common parlance are called the underdeveloped peoples of the world. As for the historians, their emphasis until recently has also been on empiricism and away from theory. The monumental philosophies of history such as Spengler's and Toynbee's, Croce's and Collingswood's have reached the low tide of their prestige. But recently there have been tentative gestures toward what is now called comparative study of civilizations or scientific comparative

history (not to be confused with the slightly older "scientific history," which meant the amassing of properly authenticated documentation). An example of this cross-influence is the fact that two of the recent comparative studies of civilized societies by predominantly historical scholars are both dedicated to A. L. Kroeber, "the dean of American anthropology," while the authors of the third — anthropologists — use Kroeber as one of their whipping boys and credit their inspiration to such social historians as Herbert Spencer, Thorstein Veblen, and H. Stuart Hughes, such evolutionists as Alfred J. Lotka, and such nineteenth-century anthropological evolutionists as Lewis H. Morgan and E. B. Tylor.

In approach, these three studies range from the extreme deterministic position of *Evolution and Culture* to the neo-Toynbeeian convictions of *The Origin of Civilized Societies* to the attempts at eclecticism and reconstructed Spenglerianism of *Culture and History*.

Basically, *EVOLUTION AND CULTURE*, edited by Marshall D. Sahlins and Elman R. Service (University of Michigan, \$3.75), is a reaffirmation of the classical evolutionary theories of nineteenth-century anthropology, together with the economic determinism of V. Gordon Childe and the strained application of thermodynamics to cultural evolution that has evidently been constructed from the "energetics of evolution" theories of Lotka by Leslie White (who provides the foreword to this volume of essays written chiefly by his former students and present colleagues).

For the authors of these four essays (the editors Sahlins and Service, Thomas G. Harding, and David Kaplan) evolution — of

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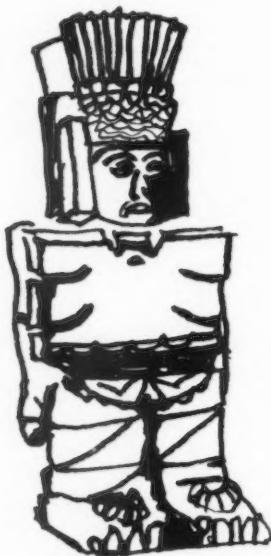
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which cultural evolution is a part and continuation of some vague "total evolution"—is one grand movement in the direction of increasing energy utilization. (In fact, this grand movement encompasses not only biological and cultural evolution, but the evolution of the universe itself—says the introduction—via a course specified by the Second Law of Thermodynamics. What is meant by this later becomes—if not more acceptable—at least clearer.) The current take-off point for this theory (classically stated somewhat earlier in *The Education of Henry Adams*) is the statement by Julian Huxley that "Evolution may be regarded as the process by which the utilization of the earth's resources by living matter is rendered progressively more efficient." (p. 7) This, it must be emphasized, is a biological statement on Huxley's part, or more precisely, an ecological statement. In this book, even Lotka's statement (also used as a foundation stone here) that "Evolution proceeds in such direction as to make the total energy flux through the system a maximum" includes an insertion by the authors—"of living things"—following the word *system*. How the authors can therefore use these statements to justify their assertions that biological and cultural evolution are not only analogous but homologous because they are both "energy-capturing systems" is a bit hard to understand. Moreover, they misinterpret another statement of Huxley's, fairly seriously in light of Huxley's own position on the whole nature of cultural evolution. To quote Sahlins and Service: "Culture is *sub specie evolutionis*, Julian Huxley asserts, a variety of evolution in general. Presumably, this implies that cul-

ture and life are 'cousins,' that they have common evolutionary descent." (p. 5) Huxley himself says:

"Medieval theology urged men to think of human life in the light of eternity—*sub specie aeternitatis*: I am attempting to rethink it *sub specie evolutionis*—in the light of evolution. . . . I am a biologist, and as such I see human history as a



recent and very special outgrowth of biological evolution.

"The biologist knows how fruitful has been the study of the mechanisms of genetic transmission for understanding the process of biological evolution. He can properly suggest to the humanist that a study of the mechanisms of cultural transmission will be equally fruitful for understanding the process of human history. Ideas, rituals, symbols, transmissible skills, beliefs, works of art—these seem to be the chief vehicles of this transmission." (*Evolution in Action*, pp. 152-53)

Sahlins, Service, *et al.* conclude from Huxley that "cultural evolution in particular is part and continuation of evolution as a totality," and from Lotka that culture, "continuing the life process, appropriates free energy and builds it into an organization

for survival, and like life, culture moves to maximize the amount of energy exploitation." Such unabashed use of the biological analogy—disavowed by the vast majority of anthropologists—seems similar to saying that because an engine burns fuel to work and a man burns carbohydrates to work, engine and man must have analogous developmental histories.

Nevertheless, since this book has been heralded as "a new approach to the science of man," we will examine it in some detail—beginning with its definition of the character of culture and its criterion for progress in general cultural evolution. To the authors, culture is a thing apart from men. "Cultures are organizations for doing something, for perpetuating human life and themselves." Note that it is culture and not man that "provides the technology for appropriating nature's energy and putting it to service, as well as the social and ideological means of implementing the process." (p. 24) Or in Chapter II, we read that "the human participants in this process (of general progress) typically articulate the increasing all-round adaptability of higher civilizations as increase in their own powers: the more energy and habitats culture masters, the more man becomes convinced of his own control of destiny and the more he seems to proclaim his anthropocentric [!] view of the whole cultural process." (pp. 37-38)

In setting up a criterion of progress for general evolution in their sense, the authors first differentiate it from what they call specific evolution. "The fundamental difference between specific and general evolution appears in this: the former is a

connected, historic sequence of forms, the latter a sequence of stages exemplified by forms of a given order of development." (p. 33) Later they continue:

"The *unit* of general evolutionary taxonomy, it should be noted, is a cultural system proper, that is, the cultural organization of a sociopolitical entity. A *level* of general development is a class of cultures of a given order. But what are the criteria for placing particular cultures in such classes, for deciding which is higher and which lower?" (p. 33)

Unfortunately, say the authors, there is at present no way of measuring the thermodynamic achievements of different cultures. However, there are structural criteria. For example, the more highly organized the culture, the more progressive. One could also judge on the criterion of all-round adaptability; that is, higher forms tend to dominate and replace lower forms because they can adapt to greater environmental variety.

As to the particular brand of technological determinism used by the authors, they quote and accept Leslie White's view:

"A culture, in this view, consists of three interrelated subsystems, technological, sociological, and ideological. The technological component is the fundamental determinant of the others and technological development is the impetus for general progress." (p. 46)

In resurrecting this corpse of naive materialism, they do feel obliged to say that they apply it only to culture as a closed system, the appropriate construct for considering general evolution. "But when attention shifts to adaptation, to specific evolution, then culture is properly considered as an *open system* and the mechanics of its development are differently understood." (pp. 46-47)

(This statement must certainly be amusing to economists, who have dealt with closed systems for some time and know how frustrating they can be for treating social dynamics.) We cannot resist entering a small protest here. This view of cultures as closed rather than open systems entirely overlooks what Walter Goldschmidt calls the most important factor in culture change: "the external selective process"—that context of other cultures which offer immediate or potential threat to the society and against which the society must rally its forces. (*Man's Way*, p. 128) It is difficult, therefore, to see what meaningful analysis can be drawn from an artificial model of the kind the authors propose. Even given their premise that the best that man's knowledge can do for him is to help him predict—that it can in no way give him influence over the course of events (and they say religion breeds fatalism!)—it is equally difficult to understand what validity for a system of interacting cultures the predictions growing from this structure could have.

Many valuable insights can, of course, be restated in terms of evolutionary theory; and several are given by the authors of this book. One of these, using their distinction between specific and general evolution, is what they call the "Law of Evolutionary Potential," which states that "specific evolutionary progress is inversely related to general evolutionary potential." (p. 97) By this they mean that as a culture becomes more and more adapted to its own social and physical environment, it tends to become nonprogressive—that is, it tends toward stability, self-maintenance. Therefore, an advanced form does not normally

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beget the next stage of advance; the next stage begins in a different line and a different place. Over-all progress is, as a result, irregular and discontinuous. They point out that Veblen was aware of this aspect of progress when he spoke of "the merits of borrowing" in explaining the industrial advance of Germany over England, who had to suffer the penalty of taking the lead. Similarly, they refer to Trotsky's phrase, "the privilege of historic backwardness," in asserting that an underdeveloped civilization has certain evolutionary potentials that an advanced one lacks. It seems, however, that the discussion here ends where it becomes most interesting. What are these evolutionary potentials? Or, in the editors' terms, the thermodynamic potentials? Why is this new energy exploitation fated to be so much better than that of the now-advanced societies? Which is the chicken and which the egg — new energy sources or the degree of rigidity in social structures?

Truly, for White's school, man's mechanisms have taken over man, and Seidenberg's post-historic man is here.

There are any number of filters for breaking down the light of history—but unless one is content with an all-yellow or all-blue version, he must return the parts to the whole. Viewing it through the lens of technology, changing environment, increasing population, or scientific, religious, or philosophical ideas affords some fascinating insights; but partial explanations are valuable only as long as they are acknowledged to be partial.

In our second comparative study, *Rushton Coulbourn's THE ORIGIN OF CIVILIZED SOCIETIES* (Princeton, \$4.00), the author is

concerned also with the dynamic behind the development of the historical civilizations and, to this end, investigates the origins of the seven primary civilized societies: the five river cultures—Egyptian, Mesopotamian, Indian, Chinese, and Andean—and the disparate two—Middle America and Crete.

The contrast between this book and the preceding one (as well as the one following) is put as succinctly as possible in Coulbourn's paragraph:

"Childe's doctrine does show . . . too great a deference to material things, for it is ultimately a doctrine which requires of necessity a certain physiography, invariable in its major features, for the origin of civilized societies, namely the physiography of great river valleys. In this book a strong probability will be set up that the physiographic factor was much more variable than this and, as a corollary, that the participation of the human mind in the creation of the primary civilized societies was the greater." (p. 27)

True, says Coulbourn, the physical forces of increasing population, wastage of soil (the early agriculturalists employed the slash-and-burn technique), and continuing desiccation drove these early peoples from what had once been a congenial environment into the dangerous flood and swamp areas of great rivers in five cases, into the tropical rain forest in the case of Middle America, and across to a new island environment in the case of Crete. There the combination of opportunity and obstacle, particularly in the form of flood control, helped fashion the rising civilizations.

At this point, however, Coulbourn veers from the materialist interpretation. He goes on to give evidence that every primary society had, at or about the time

of its origin, a new religion, which arose as a means of enabling the people of its society to survive. "Later and increasingly, it became a means of directing the society's energies toward particular ends thought important and advantageous by its leaders." (p. 129)

He assembles archeological and mythological data to show that the religions of all the primary societies were vitally concerned with water—that serpents and dragons as water symbols abounded, along with such other elements as sun gods and ancestor worship, that irrigation in some cases was under religious sanction, and that springs were often sacred. (In some cases these were combined with feline earth deities and fertility cults.)

Here, however, Coulbourn makes an additional statement important to his thesis. The fears of water shortage and the battles with depleted soil were pressures suffered also by the mesolithics. In other words, this complex was a retained characteristic from the older religions, not the new element that would explain the structure of civilized society.

"What seems to have happened is that water worship was selected from among the general religious fund of the proto-civilized peoples and magnified to serve in overcoming the crisis which threatened the

peoples' survival. . . . My guess is that it began before departure from the old habitat, that it began in response to the rise of the danger which drove the peoples to migrate. But the positive elements of novelty must surely have been added at and after re-settlement, when water in abundance had been found, when hope had been added to fear, when perhaps, the god was making manifest his munificence." (p. 169)

For the first time, charismatic leaders were formulating a coherent religious doctrine (in response to a general state of emotional susceptibility) such as would explain their recent experience in a plausible way and give them satisfactory assurance of their issue out of danger and into attainable, if conditional, security. Coulbourn allies this conclusion with Durkheim's theory that the assembling and concentration of peoples are necessary for producing a state of mental exaltation in which new social life can be awakened.

It was this phenomenon, continues Coulbourn, that underlay and gave rise to the great ecclesiastical-political organizations of these primary societies. Thus religion, he concludes, was the positive agency of the creation of these societies, and its specific function was then—as now—to unify its society and give it a common purpose.

**Philip Bagby in CULTURE AND HISTORY: PROLEGOMENA TO THE COMPARATIVE STUDY OF CIVILIZATIONS** (University of California, \$5.00) attempts an eclectic reconciliation of what he calls the idealist and positivist approaches to history. For him, the future "science of history" will place ideas and values in a central position, but it will define them empirically. And this scientific history will at first rely heavily on



anthropology both for concepts and method.

Apropos of the above controversy as to whether man can merely ride the wave of the future with his eyes open or can steer his course, Bagby says that "In so far as history is the result of human choices it will probably reflect fundamental and common human needs and we may assume that whatever regularities we find are at least partly explicable in terms of these needs." (p. 65) In the comparative study of cultures, phenomena fall into recurrent patterns or regularities, he says, from which one can speculate on meanings; but to postulate necessity into these patterns, to see them as determined, the observer must invent some principle that is at bottom metaphysical. Moreover, "such speculations in the past have turned out to provide reinforcement for the vary-

ing moral preferences of their authors. . . ." (p. 57)

Bagby fervently wants to believe (the present tense here is stylistic only; Bagby died suddenly at 40 after this book was published) in the possibility of a rational and systematic understanding of history. It is to this end that he arranges his inquiry within a cautious and academic framework of definition. The nature of history he defines as "written accounts of events involving or affecting a large number of people" as distinguished from the events themselves; and the purposes of historians, he says, are to inform, to explain, to please or edify, and to inspire to action. His concept of culture "includes not only regularities in the behaviour of men towards each other, but also regularities in their behaviour towards non-human objects, animate and in-

animate, as well as towards supernatural beings. Art, technology, religion and so on are all to be included along with social structure under the heading of culture." And civilization, at least in its later stages, is the culture of cities, which are defined as agglomerations of dwellings, a majority of whose inhabitants are not engaged in producing food. In his classification of civilizations into nine major ones (Egyptian, Babylonian, Chinese, Indian, Classical, Peruvian, Middle-American, Near-Eastern, and Western-European) and a number of secondary or peripheral ones, he follows Spengler closely and remarks that Spengler must have used, unconsciously or intuitively, criteria very similar to his.

Most of the book actually consists of such clarification of historical terminology, attempting

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*Earl L. Bailey, SMALL ORDERS: PROBLEMS AND SOLUTIONS* (Nat'l Indus. Conf. Bd.)

*Louis B. Barnes, ORGANIZATIONAL SYSTEMS AND ENGINEERING GROUPS* (Comparative study of two engineering groups in two different industrial organizations; Harvard)

*James M. Buchanan, FISCAL THEORY AND POLITICAL ECONOMY: SELECTED ESSAYS* (U. of N. Car.)

*E. A. Butler, THE RIGHT APPROACH* (Recruiting; N. Y. Business Consultants Pub. Co.)

*Morris I. Copeland, TRENDS IN GOVERNMENT FINANCING* (Princeton)

*Richmond M. Corbett, PENSION TRENDS AND THE SELF-EMPLOYED* (Rutgers)

*Calvin W. Corman, SALES AND SECURED FINANCING* (Casebook for courses in sales; Bobbs-Merrill)

*Ernest Dale and Lyndall F. Urwick, STAFF IN ORGANIZATION* (McGraw)

*Paul Davidson, THEORIES OF AGGREGATE INCOME DISTRIBUTION* (Rutgers)

*R. H. Greger and H. C. Mickey, PROCUREMENT AND MATERIALS MANAGEMENT FOR HOSPITALS* (Charles C. Thomas)

*JOB EVALUATION* (Internat'l Labor Off.)

*Walter Isard and others, METHODS OF REGIONAL ANALYSIS* (Vol. 2 of trilogy; Wiley)

*John Johnston, STATISTICAL COST ANALYSIS* (McGraw)

*T. W. Kheel and J. K. Turcott, TRANSIT AND ARBITRATION* (Prentice)

*Spencer L. Kimball, INSURANCE AND PUBLIC POLICY* (U. of Wis.)

*Charles P. Loomis, SOCIAL SYSTEMS: ESSAYS ON THEIR PERSISTENCE AND CHANGE* (Van Nostrand)

*Ralph F. Lumb (ed.), MANAGEMENT OF NUCLEAR MATERIALS* (For U. S.

Atomic Energy Com.; Van Nostrand)

MAINTAINING THE PRODUCT PORTFOLIO (A.M.A.)

MANAGEMENT OF THE PHYSICAL-DISTRIBUTION FUNCTION (A.M.A.)

*Ben Miller, GAINING ACCEPTANCE FOR MAJOR METHODS CHANGES* (A.M.A.)

*Anatol Rapoport, FIGHTS, GAMES, AND DEBATES* (U. of Mich.)

*Christopher Savage, AN ECONOMIC HISTORY OF TRANSPORT* (Hillary)

*Raymond Saxe, APPROACHES TO THERMONUCLEAR POWER* (Temple)

*E. D. Scheele, W. L. Westerman, and R. J. Wimmert, PRINCIPLES AND DESIGN OF PRODUCTION CONTROL SYSTEMS* (Prentice)

*Margaret Stacey, TRADITION AND CHANGE: A STUDY OF BANBURY* (Oxford)

*Tallman, TREATMENT OF EMOTIONAL PROBLEMS IN OFFICE PRACTICE* (McGraw)

to bring it in line with what Bagby feels is the more precise usage in contemporary cultural anthropology. For the professional historians, he also feels obliged to justify—like the above authors—the validity and usefulness of theoretical and comparative studies after a period in which they have been definitely *déclassé*. The remainder of the book seems to be an internal war of Bagby with himself over semantics. On the one hand, he feels that progress in historical knowledge must come from a new scientific rigor and systematization of data; on the other, he says that his definitions "are merely refinements of the intuitions of common-sense." (p. 182) The reasons for his dilemma become apparent in the following passage:

"So the historian gives his readers

the past, not as it might be dissected by a student of society, but as his readers might have perceived it, instinct with moral and aesthetic values, enriched by guesses as to causes and motives, dominated by a few great symbolic figures. What he reveals to us is *not*, it should be noted, the past as it would have been perceived by men living at the time; this would be of no immediate interest to his readers. On the contrary, he presents the past in the light of the present, illuminated by the tastes and preoccupations of his contemporaries. It is primarily for this reason that 'history' must constantly be rewritten. Each generation must find its own interpreters, the historians who will show how the past can be related to the new needs and problems of the day.

"The historians thus play the same role in our society as the bards of less-developed peoples. They revivify and remould the past in order that it may serve as an inspiration for the present. We need not

condemn them, as Aristotle did, for imitating the tragedians and the epic poets. After all, the poet is as necessary and useful as the scientist. He tries to express the facts of experience in their full intensity and actuality as transformed by the emotions and preconceptions of the observer, and in so doing he brings richness and order into our emotional life. The pure sense—datum of the scientist and the empirical philosopher is perhaps no less a fiction than the glorified human figures of mythology and history—experience always involves the observer as well as the observed. But both are useful fictions. The historian and the poet serve to strengthen our purpose, the scientist to ensure that these purposes are not rendered ineffective by ignorance and wishful thinking." (p. 49)

The key lies in the phrase "illuminated by the tastes and preoccupations of his contemporaries." This semi-rationality of past his-

*N. E. Terleckyj and Alfred Tella, MEASURES OF INVENTORY CONDITIONS* (Nat'l Indus. Conf. B'd.)

*Richard Tybout, THE REACTOR SUPPLY INDUSTRY* (Bur. of Bus. Res., Ohio State U.)

*Dorothy Willner (ed.), DECISIONS, VALUES, AND GROUPS* (Interdisciplinary study; Pergamon)

#### FORTHCOMING

*Robert A. Brady, ORGANIZATION PROBLEMS RAISED BY THE SCIENTIFIC REVOLUTION IN INDUSTRY* (U. of Cal.)

*Willard Pleuthner, 460 SECRETS OF SUCCESSFUL ADVERTISING PEOPLE* (BBD & O; Nelson)

#### BUSINESS HISTORY

*J. E. Thompson and Norman Beasley, FOR THE YEARS TO COME: THE STORY OF INTERNATIONAL NICKEL OF CANADA* (Putnam)

*William J. Parish, THE CHARLES ILFELD COMPANY* (Harvard)

*Irene D. Neu, ERASTUS CORNING, MERCHANT AND FINANCIER, 1794-1872* (Cornell)

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*James Leiby, CARROLL WRIGHT AND LABOR REFORM* (Harvard)

*James H. Kyner, as told to Hawthorne Daniel, END OF TRACK* (Trans-Mississippi railroad building; U. of Neb.)

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*John W. Ferry, A HISTORY OF THE DEPARTMENT STORE* (Macmillan)

*William Cahn, THE STORY OF PITNEY-BOWES* (Harper)

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#### ECONOMIC GROWTH

*Universities-Nat'l Bur. Com. for Econ. Res., DEMOGRAPHIC AND ECONOMIC CHANGE IN DEVELOPED COUNTRIES* (Princeton)

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*ECONOMIC GROWTH IN THE 1960's* (Annual report; Nat'l Indus. Conf. B'd)

*D. H. Houghton (ed.), ECONOMIC DEVELOPMENT IN A PLURAL SOCIETY* (On Brit. Kaffravia; Oxford)

*Gregory Grossman, SOVIET STATISTICS OF PHYSICAL OUTPUT OF INDUSTRIAL COMMODITIES* (Princeton)

*Alexander Erlich, THE SOVIET INDUSTRIALIZATION DEBATE* (Harvard)

*Maurice H. Dobb, AN ESSAY ON ECONOMIC GROWTH AND PLANNING* (Monthly Rev. Pr.)

torians, as he later calls his above distinctions, seems reprehensible "in the light of our desire for a more rational approach." History, which has for some time balanced between the humanities and social sciences, is peculiarly sensitive to the prestige value of anything that makes some demands on the term "science." The pity is that rational thinking, or just plain good thinking, should seem for many to be the exclusive preserve of science. Even systematic thinking, so patently scientific on first reflection, has a longer association with philosophy and theology than with science. As for rationality, *per se*, the good poet proceeds as rationally as the good scientist. The

one stands upon cognitive verification; the other, affective.

Perhaps if Bagby were not so sensitive to the pejorative connotation currently attached to "philosophy," he would settle for it—the same could also apply to the authors of the two preceding books. Regardless of terminology, Bagby feels that the investigation of large-scale recurrent patterns in the long developments of the various civilizations will reveal a whole new world if the investigator proceeds rationally, with no moralistic or ideological axes to grind.

Harking back to our contemporary bard, Rostow, and his attempt to revivify the past as a

source of present inspiration, we are left with the question whether he has proceeded rationally or succumbed to ax-grinding. That he has an ax to grind is, of course, a conscious and central fact evidenced by his subtitle, "A Non-Communist Manifesto." For this reviewer, however, the recent events in Africa and Latin America so substantiate his diagnosis of communism as a disease of the transition, and his analysis of the problem of peace so aligns with the facts given by Novak as to justify the enthusiasm of *The Economist's* editors. Only the future, of course, can judge the validity of Rostow's "Buddenbrooks' dynamics."

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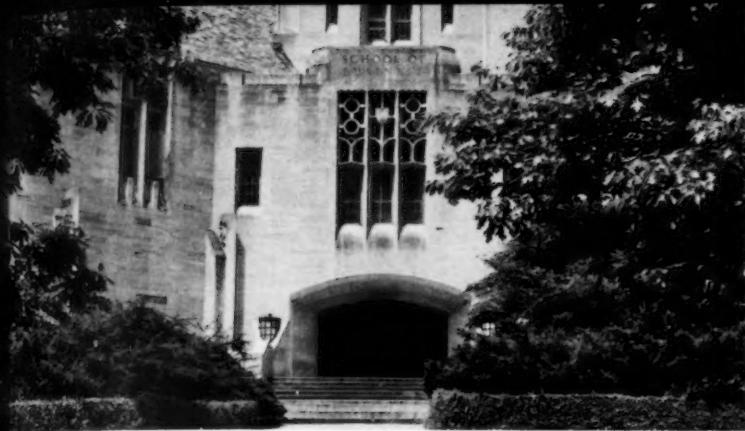
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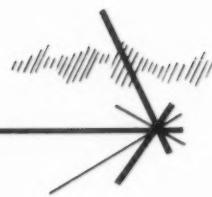
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